NUS CORPORATION

1927 LAKESIDE PARKWAY
SUITE 614
TUCKER, GEORGIA 30084
404-938-7710

REDACTED

2009
received
JAN 04 1989

C-586-1-9-13

January 4, 1989

Mr. Narindar Kumar
Site Investigation and Support Branch
Waste Management Division
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Subject: Final Site Screening Investigation Report
Champion International Corporation
Orangeburg, Orangeburg County, South Carolina
TDD No. F4-8801-06
Revision 0

Dear Mr. Kumar:

Please find enclosed three (3) copies of the Final Site Screening Investigation Report for Champion International Corporation. The additional bound copy has been requested by Georgia-Pacific and should be sent to the attention of Lawrence P.E. Otwell at the following address:

Georgia-Pacific
P. O. Box 105603
Atlanta, GA 30348

If you have any questions or comments please contact me at NUS Corporation.

Very truly yours,

Teresa R Sawyer

Teresa R. Sawyer
Project Manager

Approved

Grey Schank

TRS/dwf

Enclosures (3)

received
JAN 04 1989

NUS CORPORATION
SUPERFUND DIVISION ***PROJECT NOTES***

TO: Brian Hollaway **DATE: December 27, 1988**

FROM: Teresa Sawyer **COPIES:**

SUBJECT: Multiple HRS Scores

REFERENCE:

The reason there are multiple HRS scores enclosed is because the exact waste quantity is not known. 200 drums is a reasonable estimate.10,000 is a maximum quantity used to observe how it affects the score.

NUS 443A 58 1182

JAN 0 1 1989

R-586-12-8-11

FINAL
SITE SCREENING INVESTIGATION
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA
EPA ID #SCD003342177

Prepared Under
TDD No. F4-8801-06
CONTRACT NO. 68-01-7346

Revision 0

FOR THE

WASTE MANAGEMENT DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

December 27, 1988

NUS CORPORATION
SUPERFUND DIVISION

Prepared By	Reviewed By	Approved By
Teresa Sawyer	Greg Schank	Greg Schank	Murray Warner, P.E.
Teresa Sawyer Project Manager	Greg Schank Assistant Regional Project Manager	Murray Warner, P.E. Regional Project Manager

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TABLE OF CONTENTS

NOTICE

The information in this document has been funded wholly by the United States Environmental Protection Agency (EPA) under Contract Number 68-01-7346 and is considered proprietary to the EPA.

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EXECUTIVE SUMMARY

Champion International Corporation, in Orangeburg, Orangeburg County, South Carolina has not operated as such since Georgia-Pacific acquired the property on June 12, 1988. Decolam, Inc. has been in operation on a portion of the property since March 7, 1988. Decolam is a vinyl laminating plant owned by former employees of Champion International. The paneling manufacturing process from the fifties until 1988 included a veneer peeling operation and a finishing operation. The veneer peeling operation was discontinued in the early 60's. Champion International facility originally treated, stored and disposed of hazardous waste, but in the early 1980s the status was changed to a generator of hazardous waste only. There was concern about drums that were disposed of on the back of the property.

Orangeburg County is located in the Middle Atlantic Coastal Plain Physiographic Province. The area is overlain by Pleistocene deposits of silt, sand, clay and gravel which are 50 to 120 feet deep in the study area. Underlying the surficial deposits are quartzose sands, calcareous clays and thin limestone of the McBean Formation which interfinger with the fossiliferous, cherty, glauconitic, and dolomitic Santee limestone. These are the three primary aquifers in the Orangeburg area and all are unconfined. The limestone aquifers are very productive.

There is a possibility of groundwater contamination because uncontained waste was buried. There are approximately 20 residences within 4 miles of Chamion International on private wells The primary concern, though, would be with surface water contamination because the majority of the residents in Orangeburg depend on it for drinking. However, Middle Penn Creek, which runs through the property, is not hydrologically connected to the North Edisto River which supplies the city of Orangeburg. The surface water intake is approximately 2.5 miles to the southwest.

The Carolina Bays located throughout the Orangeburg area are considered sensitive environments and are home to many types of wildlife therefore are of concern. There is also a potential for onsite or nearby air exposure if the soil is disturbed.

Analyses of samples collected during the field investigation revealed only small concentrations of contaminants. Further, these analytical results did not reveal a direct correlation between the facility operations and the contaminants present. It is recommended that this site be reevaluated under the revised Hazard Ranking System.

1.0 INTRODUCTION

The NUS Corporation Region 4 Field Investigation Team (FIT) was tasked by the U.S. Environmental Protection Agency (EPA), Waste Management Division to conduct a site screening investigation (SSI) at Champion International Corporation in Orangeburg County, South Carolina during the week of May 30, 1988. The investigation was performed under the authority of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The task was performed to satisfy the requirements stated in Technical Directive Document (TDD) number F4-8801-06.

1.1 OBJECTIVE

The objective of this investigation was to characterize any contamination produced by or released at Champion International Corporation through the analyses of environmental soil and water samples.

1.2 SCOPE OF WORK

The scope of this investigation included the following activities:

- Obtain and review relevant background materials
- Obtain information on local water systems
- Evaluate target populations within a 4-mile radius of the site with regard to groundwater and surface water
- Determine location and distance to nearest potable water
- Develop a site sketch drawn to scale
- Collect 13 environmental samples consisting of surface soil, subsurface soil, sediment, and surface water samples

2.0 SITE CHARACTERIZATION

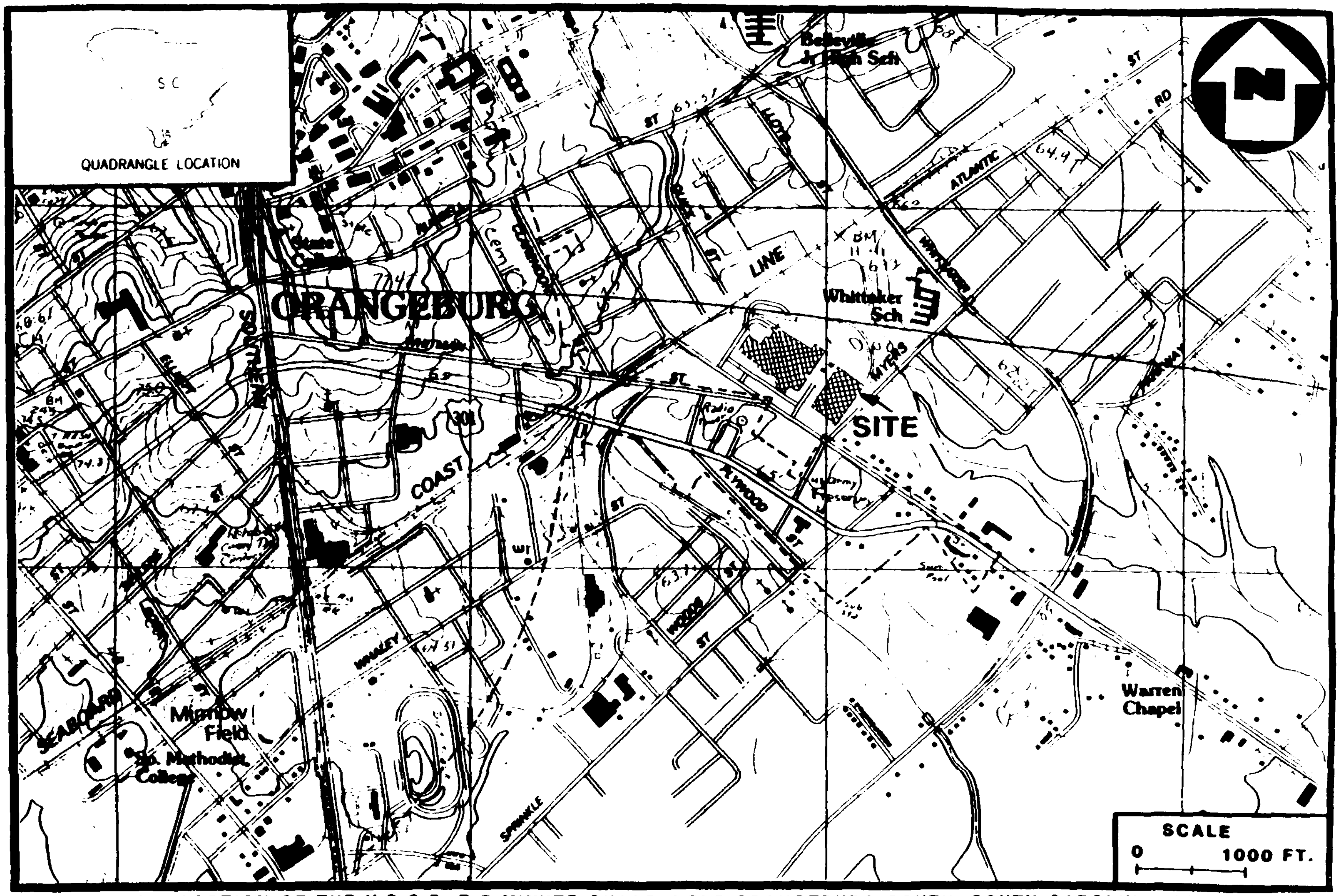
Champion International Corporation is located at the corner of Five Chop Road and Myers Road in Orangeburg, Orangeburg County, South Carolina. Orangeburg is situated in the south-central portion of the state. The 43.5-acre site is on the east side of Five Chop Road. The latitude and longitude of the facility are 33°28'0" N and 81°13'0" W, respectively (Ref. 1). Refer to Figures 2-1 and 2-2.

2.1 SITE BACKGROUND AND HISTORY

Champion International Corporation operated alternately under the name of U.S. Plywood. Construction began in 1948 for U. S. Plywood and production began in 1950 or 1951. In the sixties Champion International and U. S. Plywood merged. It remained as such until August of 1985 when it was purchased and again named U. S. Plywood. This facility manufactured plywood during this entire period of time (Ref. 1). Currently, Georgia-Pacific owns the property and has shut down operations at this plant; however, another business, Decolam, Inc., is still in operation on part of the property. Decolam is a vinyl laminating plant owned by former employees of Champion International and presided over by the former vice president and general manager of Champion International (Ref. 2). An offsite reconnaissance was conducted by NUS in January 1988. Figure 2-2 shows the site layout as ascertained by topographic and city maps.

A Notification of Hazardous Waste Activity form was filed on August 15, 1980 and again on November 19, 1980, in order to change the status of Champion International from a facility which treats, stores, and disposes of hazardous waste to one which only generates hazardous waste (Ref. 3). A Notification of Hazardous Waste Site form was filed on June 9, 1981, describing the facility type as a landfill, with organics and solvents as the general type of waste (Ref. 4). As of September 14, 1982, Champion International was listed as an interim status facility (Ref. 5). On October 31, 1983, the South Carolina Department of Health and Environmental Control (SCDHEC) granted Champion approval for the offsite disposal of pesticides and pesticide containers at the Orangeburg County Landfill. The chemicals were stored in 55-gallon drums at the Champion facility until their disposal at the landfill (Ref. 6).

Champion International's disposal practices at the Orangeburg County Landfill were of great concern to SCDHEC in the early 1980s. Unsealed drums were transported to the landfill on several occasions and leaked liquids onto the ground (Ref. 7). Although this primarily impacts the county landfill, Champion International's disposal practices may have resulted in spills on their own grounds before the transport of the drums.

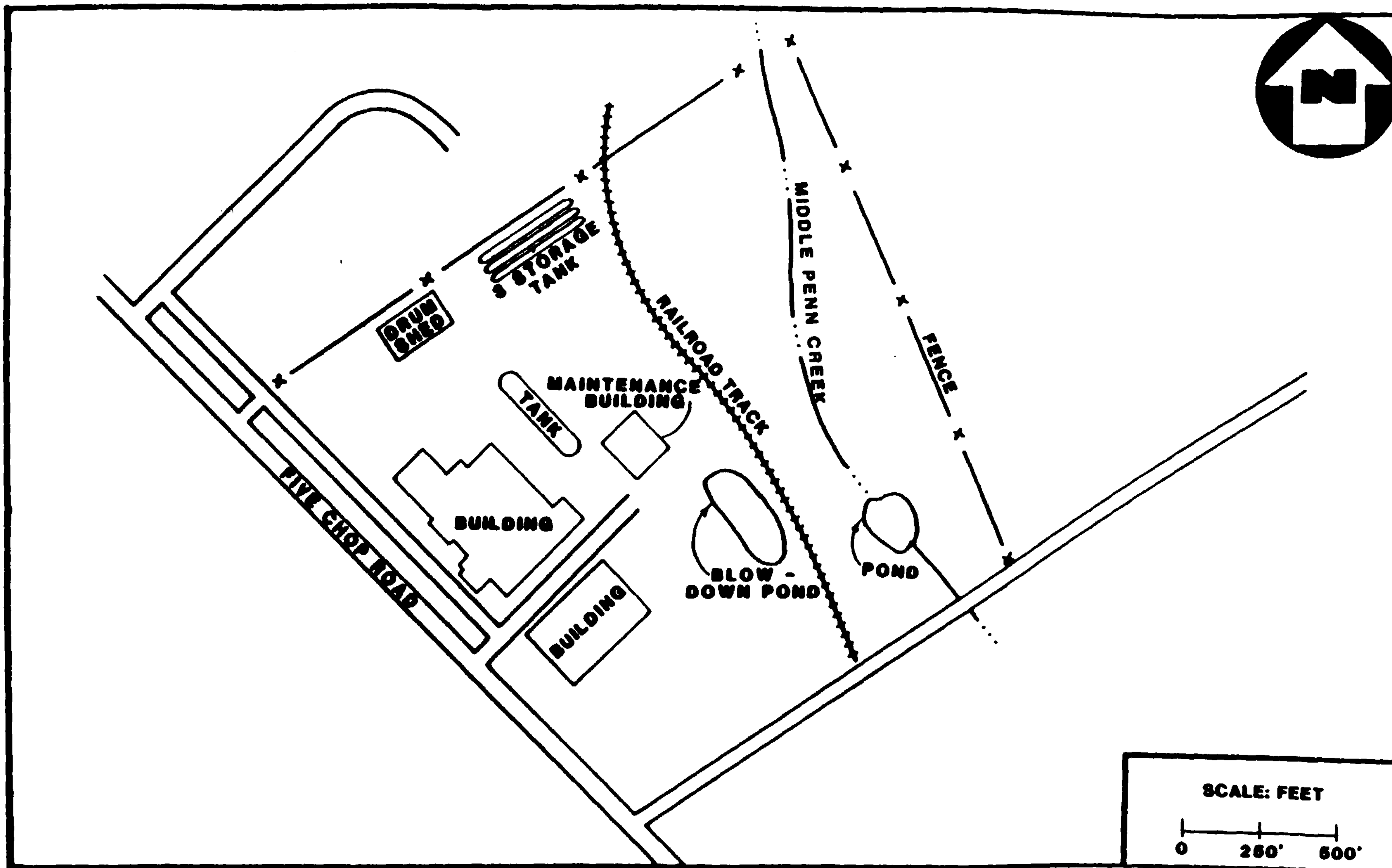


BASE MAP IS A PORTION OF THE U.S.G.S. 7.5 MINUTE QUADRANGLE ORANGEBURG SOUTH, SOUTH CAROLINA, 1982.

SITE LOCATION MAP
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, SOUTH CAROLINA

FIGURE 2-1

NUS CORPORATION



SITE LAYOUT MAP
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

FIGURE 2-2

NUS CORPORATION

The one persistent problem with Champion International is a disposal area which is mentioned frequently in the file material. This disposal area is located along the back of the facility. Drums have been disposed of there (Ref. 8).

The first mention of the disposal area in the file material was in 1974. Investigators from the Industrial Waste Section of SCDHEC saw several piles of wood scraps and a few 55-gallon drums. The plant manager stated that cleanup of the area should be finished by the end of that year (Ref. 8). An SCDHEC visit in 1982, however, again noted the presence of drums in the disposal area. The plant manager was instructed to determine what was in the drums. SCDHEC also discovered that the plant was burning cured urea formaldehyde glue sludge in wood/fuel boilers without district air personnel being aware of the practice (Ref. 9).

In 1986, SCDHEC sent a letter to Champion International concerning the old drum site, once again urging an investigation of the matter. The letter also mentioned a cooling water basin located on the property near the dump area which may have used chromate cleaners in its operation. This cooling water basin is shown as the blow down pond in Figure 2-2. As late as May 14, 1987, the corporation had taken no action regarding the questions presented by SCDHEC (Ref. 10).

2.2 SITE DESCRIPTION

2.2.1 Site Features

Champion International encompasses 43.5 acres of land, much of which is overgrown with large trees and brush. The entrance to the facility is on the south side of the property. There is a large building which is presently being used by Decolam, Inc. There are several other abandoned buildings along the front of the property. Against the fence on the northeast side is a drum storage shed. It is a concrete pad with a three-walled building constructed on it. Next to the shed on the north lie three storage tanks which contain methyl ethyl ketone and toluene. They are not constructed on concrete. Towards the back of the property there is a large area that is strewn with scrap metal and concrete. In this area there was supposedly a trench that was filled with drums and then covered over. The entire back of the property is heavily wooded. The Middle Penn Creek runs across the back of the property. There are remnants of a 5-acre log pond that intersected Middle Penn Creek. Presently, there is a blow-down pond on the center of the property that is used for cooling the boiler. Site drainage is to the southwest. The entire property is fenced; therefore, it is not easily accessed by the public. See Figure 2-2 for details.

2.2.2 Waste Characteristics

The Hazardous Waste Facility permit application indicates that acrylic topcoat filler paste, prefinish wash solvents, vinyl wash line solvents, oil and grease, glue pit sludge and water-based paint were disposed of at this facility (Ref. 11). Champion International/U.S. Plywood manufactured plywood. In the early sixties there was a veneer peeling operation being conducted but it was discontinued. This process should not have generated any waste. The waste was generated from veneer gluing and a finishing operation which included sanding and coating the plywood. Before the county of Orangeburg acquired a county dump, much of the garbage and waste was brought to this property. It is not known exactly what types of materials were being dumped during this period of time. It appears that the waste and drums were bulldozed to the back of the property and then buried (Ref. 12).

2.3 ENVIRONMENTAL/REGIONAL SETTING

2.3.1 Demography

Champion International is located in the city of Orangeburg. Present population of Orangeburg is 15,000 (Ref. 13). There is a school 500 feet immediately north of the facility (Ref. 14).

2.3.2 Land Use

Land in the study area is used primarily for multi-family residences and small industries. There are wooded areas surrounding the site, also (Ref. 12).

2.3.3 Sensitive Environments

Carolina Bays, undrained shallow depressions with an elliptical or ovate shape, are located throughout the Orangeburg area. These bays are home to many sorts of wildlife and are considered sensitive environments (Ref. 15). The Middle Penn Creek flows through the property. The North Edisto River also flows within 2 miles of the facility (Ref. 14).

2.4 HYDROLOGY

2.4.1 Climatology

Champion International Corporation lies in the Coastal Plain Physiographic Province. The topography of the area is characterized by moderate to high relief ranging from 250 to 420 feet above sea level. The climate is humid and temperate with a mean monthly air temperature of 64.2°F. The mean annual precipitation is 46.37 inches. The mean annual lake evaporation is 43.0 inches, resulting in a net annual recharge of 3.37 inches (Ref. 15).

2.4.2 Overland Drainage and Potentially Affected Water Bodies

Surface water runoff migrates into Middle Penn Creek which is directly behind the facility. Middle Penn Creek becomes a swamp southeast of Orangeburg. The North Edisto River provides the city of Orangeburg with potable water. This river is not connected in any way to Middle Penn Creek or Swamp. The surface water intake lies approximately 2.5 miles southwest of Champion International and serves 16,395 people (Ref. 14). Therefore, the surface water pathway is not considered to be of concern.

2.5 REGIONAL AQUIFER CHARACTERISTICS

Orangeburg, South Carolina is located in south-central South Carolina in the Middle Atlantic Coastal Plain Physiographic Province. The city of Orangeburg lies at the transitional zone between the outcrop areas of the McBean Formation in the Upper Coastal Plain and the Santee Limestone in the Lower Coastal Plain. The quartzose sands, calcareous clays and thin limestone of the McBean Formation interfinger with the fossiliferous, cherty, glauconitic, and dolomitic Santee limestone at this transition zone (Ref. 15). Groundwater flows in a southeasterly direction in the study area (Ref. 16).

This zone is overlain with Pleistocene deposits of silt, sand, clay and gravel, and underlain in descending order, by the Black Mingo, Peedee, Black Creek, and Middendorf aquifer systems. The surficial Pleistocene aquifer, along with the Santee and the McBean aquifers of Tertiary age, are unconfined aquifers in the Orangeburg area, with water levels of approximately 40 feet below land surface (bls) (Ref. 15). These aquifers are separated from the underlying aquifers by confining layers of shale and clay in the upper part of the Black Mingo formation (Ref. 14). The Black Mingo, Peedee, Black Creek, and Middendorf are all confined aquifers in this area.

The Pleistocene deposits of silt, sand, clay and gravel are from 50 to 120 feet thick in the Orangeburg area. There are some private wells tapping this aquifer; but, due to the high content of iron in the water at this depth, the number of wells is low (Ref. 15).

The Santee Limestone of the Tertiary Limestone aquifer system is first encountered at 50 to 120 feet bls (Ref. 13). This formation has developed a secondary porosity from the enlargement of fractures and joints through dissolution of limestone by the water contained in the aquifer. Fissures, sinkholes and subterranean passageways in the porous limestone are infiltrated by rainfall during the recharge process, making it a very productive system (Ref. 16).

The McBean Formation is part of the Tertiary Sand aquifer system and consists of quartzose sands interbedded with clays. Both the McBean and the Santee occur at or near the land surface and are tapped by wells with depths of approximately 90 to 300 feet (Refs. 13, 14, 15).

The nearest well is 1.75 miles from Champion International and there are approximately 20 residences using groundwater within 4 miles of the site. These wells are used primarily for drinking (Ref. 18).

3.0 TARGET ANALYSIS

3.1 GROUNDWATER POTENTIAL

Groundwater may have been contaminated by this site because drums were used to store contaminants from the facility and these drums were carelessly sealed and many have rusted so much that they may no longer be containing the waste (Ref. 12). The majority of the residences in Orangeburg use municipal water which is obtained from the North Edisto River. Approximately 20 residences in the 4 mile radius use private wells for their drinking water (Ref. 18).

3.2 SURFACE WATER POTENTIAL

There is high potential for surface water contamination of Middle Penn Creek which flows through the property. Further southeast of Orangeburg, the creek becomes a swamp. This swamp, along with the Carolina Bays in the area, are considered to be sensitive environments. The North Edisto River, which supplies the municipal system in Orangeburg, is not hydrologically connected to Middle Penn Creek (Refs. 14, 19). Therefore, this surface water pathway is not considered to be of concern.

3.3 ONSITE EXPOSURE POTENTIAL

Champion International is a completely fenced facility; therefore, direct contact would be a hazard to employees but not the general public (Ref. 12).

3.4 AIR POTENTIAL

Airborne contamination is possible because surface soils were found to be contaminated. Contaminated dust particles may be transported from the site in moderate to strong gusts of wind.

TABLE 3-1

TARGET SUMMARY
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

PATHWAY	TARGET ANALYSIS	COMMENTS
Surface Water	Middle Penn Creek, Carolina Bays.	Fishing and recreational use of creek. Bays are considered sensitive environments.
Groundwater	Residents with private wells.	Approximately 20 residents within 4 miles of the facility.
Air	Onsite workers and residents in the surrounding areas.	Dust particles being disturbed.

4.0 FIELD INVESTIGATION

The field sampling investigation was conducted the week of May 30, 1988 to identify the absence or presence of contaminants in the environment as a result of activities at the Champion International facility. A geophysical investigation was first conducted to aid in the selection of sample locations. Thirteen samples were taken. Due to the limited number of groundwater targets, no groundwater samples were collected. The samples were analyzed for the complete Hazardous Substance List (HSL) of compounds which includes metals, cyanide, PCBs, pesticides, and extractable and purgeable organic compounds. All sample analyses were performed under the EPA Contract Laboratory Program (CLP).

4.1 GEOPHYSICAL INVESTIGATION

A geophysical investigation was conducted at Champion International on June 2, 1988. The study had one objective: to aid in the selection of locations for the collection of subsurface soil samples.

Three non-parallel lines were marked at 25-foot centers and surveyed with an EM31D non-contacting terrain conductivity meter. All three lines were located north of the Seaboard Coast railroad tracks situated near the Champion International loading zone. Prior to the survey, the electromagnetometer was calibrated according to standard operating procedures. Background conductivity values were recorded in field logbook number F4-891. It was not possible to create a grid for the survey. The ground was cluttered with metallic debris and assorted building materials. Therefore, three lines were shot in areas where a line could be laid between scrap piles. As a result, conductivity was measured along three randomly-oriented lines located along the northern perimeter of the facility.

Background conductivity values had an averaged value of 17 mmhos/m. Values for lines 1 and 2 ranged from 20 to 111 mmhos/m. Some of the values of line 3 were greater than 150 mmhos/m. Since all three lines shot were near or through piles of waste metal, it is difficult to explain why the western end of line 3 had anomalous values. Furthermore, the absence of tie lines or adjacent lines suggests that the data collected for this investigation is inconclusive and unreliable. Therefore, this investigation did not aid in the choice of sample locations.

4.2 DESCRIPTION OF SAMPLES AND SAMPLE LOCATIONS

A total of four surface soil samples were collected during this investigation. Sample locations are shown in Figure 4-1, and sample descriptions are given in Table 4-1. One of the surface soil samples (CI-SS-01) was located at the front southeast corner of the property to characterize the background conditions. The second surface soil was a composite soil (CI-CS-02) and was taken in four areas surrounding the drum storage shed. A third surface soil (CI-SS-03) was taken at the maintenance building where some discolored soil was observed. The last surface soil sample (CI-SS-04) was collected on the back of the property in the woods where partially buried drums lay.

Additionally, three subsurface soil samples were collected during this investigation. A background sample (CI-SB-01) was taken at the front southeast corner of the property. A second subsurface soil (CI-SB-02) was taken on the back of the property downgradient from the buried drums. The third subsurface soil sample (CI-SB-03) was taken at the maintenance building. The subsurface soil samples were all taken at approximately 3 feet below land surface (bls).

During the investigation, three sediment samples were taken. A background sample (CI-SD-01) was taken upgradient on the Middle Penn Creek. There is a blow-down pond located on the property, and the second sediment sample (CI-SD-02) was taken there. The third (CI-SD-03) was collected downgradient on the Middle Penn Creek.

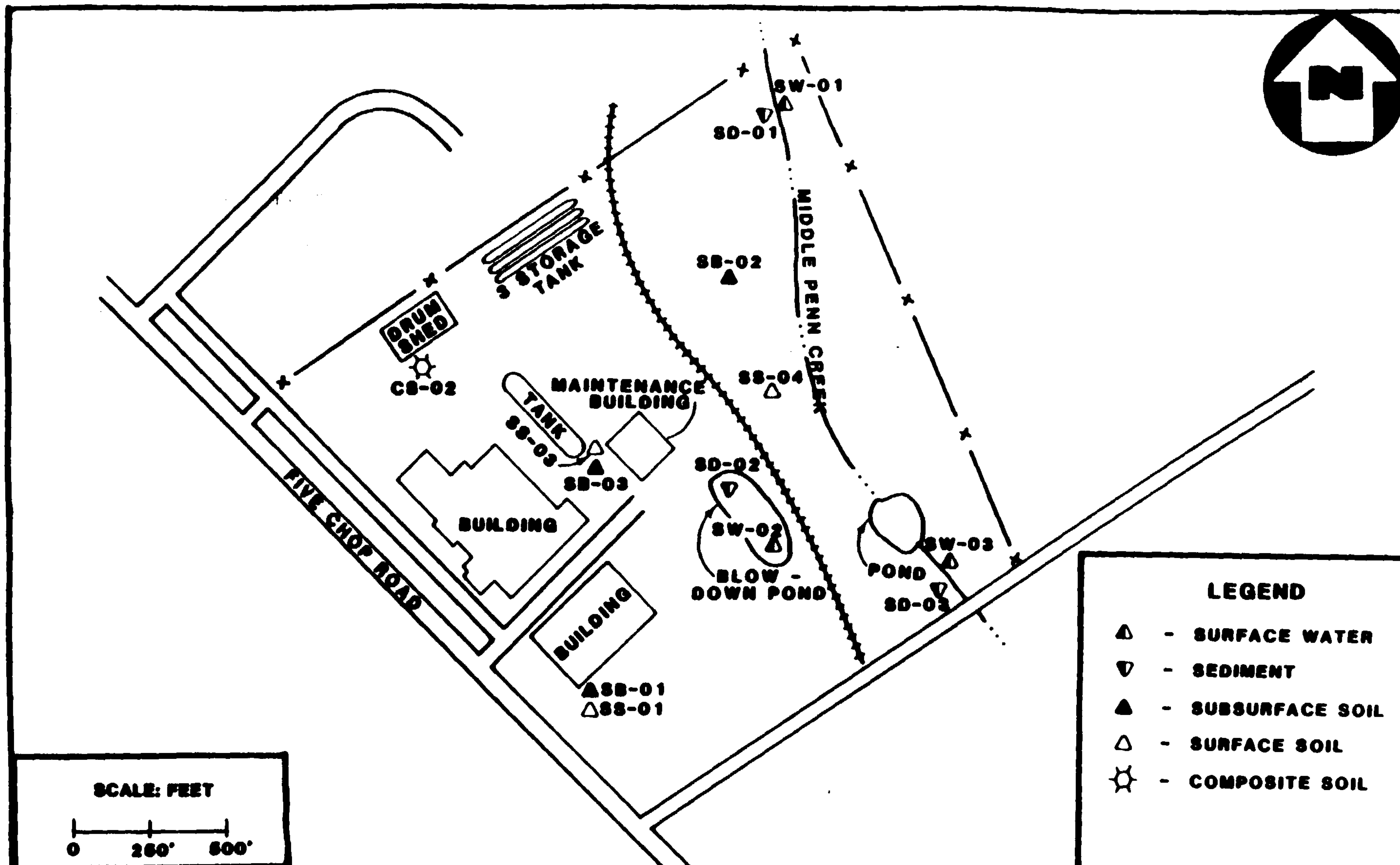
Three surface water samples (CI-SW-01, CI-SW-02, CI-SW-03) were collected at the same locations as the sediment samples. No groundwater samples were taken at Champion International Corporation due to the lack of substantial groundwater targets in the study area.

4.3 SPLIT SAMPLES

Split samples were offered to Mr. Thomas Stevens of Georgia Pacific Corporation and he declined the offer. A receipt for samples form with his signature is on file at the NUS FIT 4 office.

4.4 FIELD MEASUREMENTS

Field measurements were recorded for the surface water samples. Included were temperature of sample at time of collection, pH, and conductivity. No field measurements were performed on the soil samples during the investigation. The field measurements are presented in Table 4-1.



SAMPLE LOCATIONS MAP
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

FIGURE 4-1

NUS CORPORATION

TABLE 4-1

SAMPLE LOCATION STATIONS & FIELD MEASUREMENTS
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Sample Codes	Description/Location	Date 1988	Time	pH	Temp (°C)	Conductivity (umhos/cm)
CI-SS-01	Surface soil sample taken at front southeast corner of the site. This sample was utilized as a background sample.	6/2	1015	-	-	-
CI-SB-01	Subsurface soil sample collected on southeast corner of site at approximately 3 feet bls. This sample was utilized as a background sample.	6/2	1025	-	-	-
CI-SW-01	Surface water sample taken upgradient in Middle Penn Creek on site. This sample was utilized as a background sample.	6/2	1020	6.9	31	150
CI-SD-01	Sediment sample taken upgradient in Middle Penn Creek on site. This sample was utilized as a background sample.	6/2	1025	-	-	-
CI-CS-02	Composite soil sample taken on northern side on site at drum storage area.	6/2	1045	-	-	-
CI-SW-02	Surface water sample taken at center of site in the blow-down pond.	6/2	1150	9.5	32	1900
CI-SD-02	Sediment sample collected at center of site in the blow-down pond.	6/2	1155	-	-	-
CI-SB-02	Subsurface soil sample collected on northeast portion of site in the woods at approximately 3 feet bls.	6/2	1215	-	-	-

\- No measurements taken

4.5 ANALYTICAL SUPPORT

Analytical services for the environmental soil and water samples collected were provided by consulting laboratories as a part of the EPA Contract Laboratory Program (CLP). Organic analysis of both water and soil samples was conducted by Compuchem Laboratories, Research Triangle Park, North Carolina. In organic analysis of the water and soil samples was conducted by Keystone Environmental Resources, Houston, Texas.

4.6 PRESENTATION OF ANALYTICAL RESULTS

The following sections present a discussion of laboratory analysis performed on samples collected during the field investigation. The results of the organic and inorganic analyses for surface soil samples are given in Tables 4-2 and 4-3. The inorganic analysis for subsurface soil samples is presented in Table 4-4. The laboratory results for the sediments samples are shown in Tables 4-5 and 4-6. The organic and inorganic results for surface water samples are given in Tables 4-7 and 4-8.

4.6.1 Soil Samples

The background surface soil and subsurface soil samples, CI-SS-01 and CI-SB-01, contained no contaminants. One onsite composite surface soil sample (CI-CS-02) contained substantial levels of 16 poly-nuclear aromatic hydrocarbons. Also present in the organic analytical results for CI-CS-02 were three phthalate compounds, pentachlorophenol, and dibenzofuran. The compounds present in CI-SS-03 were fluoranthene, pyrene, and di-n-octylphthalate. Sample CI-SS-04 contained fluoranthene, pyrene, bis (z-ethylhexyl) phthalate, and chrysene. The three subsurface soil samples (CI-SB-01, CI-SB-02, CI-SB-03) contained no organic contaminants.

The inorganic analyses of surface soil samples detected barium, chromium, copper, lead, magnesium, and nickel at levels higher than those in the background sample. Zinc concentrations were found in CI-CS-02 and CI-SS-04. A level of 5.5 ug/L of arsenic was present in CI-CS-02, also. The inorganic analysis of subsurface soil samples showed no elevated levels of contaminants when compared with the background sample. A summary of organic and inorganic soil contaminants is listed in Tables 4-2, 4-3, and 4-4.

TABLE 4-2

SUMMARY OF ORGANIC ANALYTICAL RESULTS
SOIL SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (ug/L)	Background	Onsite		
	CI-SS-01	CI-CS-02	CL-SS-03	CI-SS-04
Purgeable Compounds				
Methylene Chloride	-	-	-	-
Toluene	-	-	-	-
Acetone	-	-	-	-
Extractable Compounds				
Naphthalene	-	830J	-	-
Acenaphthene	-	760J	-	-
Fluorene	-	760J	-	-
Phenanthrene	-	7000	-	-
Anthracene	-	1400J	-	-
DI-N-Butylphthalate	-	460J	-	-
Fluoranthene	-	10,000	180J	67J
Pyrene	-	6100	190J	53J
BIS (2-Ethylhexyl) Phthalate	-	90,000	-	5100
Benzo (A) Anthracene	-	4100	-	-
Chrysene	-	4700	-	56J
DI-N-Octylphthalate	-	840J	680J	-
Benzo (B and/or K) Fluoranthene	-	8400J	-	-
Benzo-A-Pyrene	-	3300	-	-
Indeno (1, 2, 3-CD) Pyrene	-	1800J	-	-
Dibenzo (A,H) Anthracene	-	800J	-	-
Benzo (GHI) Perylene	-	1800J	-	-

J Estimated Value
N Presumptive Evidence of Presence of Material
\- Material analyzed for but not detected

TABLE 4-2

SUMMARY OF ORGANIC ANALYTICAL RESULTS
SOIL SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (ug/L)	Background	Onsite		
	CI-SS-01	CI-CS-02	CL-SS-03	CI-SS-04
Pentachlorophenol, PCP, Penta	-	9500	-	-
Benzoic Acid	-	-	-	250J
4-Methylphenol	-	-	-	-
Dibenzofuran	-	460J	-	-
(3-and/or 4-) Methylphenol	-	-	-	-
2-Methylnaphthalene	-	370J	-	-
Carbazole	-	400JN	-	-
Benzofluoranthene (Not B or K)	-	3000JN	-	-
Bromohexane	-	-	-	800JN
Pentacosane	-	-	-	10,000JN
N-Nitrosodiphenylamine/Diphenylamine	-	-	-	-
Petroleum Product	-	-	N	-
Unidentified Compounds/No.	-	40,000J/13	10,000J/8	20,000J/17
Pesticide/PCB Compounds				
Dieldrin	-	72	-	-

J Estimated Value
N Presumptive Evidence of Presence of Material
\- Material analyzed for but not detected

TABLE 4-3

SUMMARY OF INORGANIC ANALYTICAL RESULTS
SOIL SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (mg/kg)	Background	Onsite		
	CI-SS-01	CI-CS-02	CI-SS-03	CI-SS-04
Aluminum	2700	4200	4700	3100
Antimony	-	-	-	-
Arsenic	0.81JN	6.7JN	2.8JN	3JN
Barium	30	160	70	100
Beryllium	-	-	-	-
Cadmium	-	2.6	-	-
Calcium	720	1400	1100	1700
Chromium	4.7	36	8.7	78
Cobalt	-	-	-	4.5
Copper	-	6.2J	2.3J	6.4J
Iron	2700	11,000	5400	4300
Lead	13J	55J	14J	29J
Magnesium	120J	260J	200	180
Manganese	43J	81	37J	140J
Mercury	-	-	-	-
Nickel	-	-	-	23
Potassium	-	-	-	-
Selenium	-	-	-	-
Silver	-	-	-	-
Sodium	-	-	-	-
Thallium	-	-	-	-
Tin	NA	NA	NA	NA
Vanadium	7.9	16	12	8.5
Zinc	-	240J	-	88J
Cyanide	-	5.5	-	-

J Estimated Value
N Presumptive Evidence of Presence of Material
\- Material analyzed for but not detected
NA Not analyzed

TABLE 4-4

SUMMARY OF INORGANIC AND ORGANIC ANALYTICAL RESULTS
SUBSURFACE SOIL SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (mg/kg)	Background	Onsite	
	CI-SB-01	CI-SB-02	CI-SB-03
Aluminum	13,000	5600	6900
Antimony	-	-	-
Arsenic	9.8JN	6.7JN	1.6JN
Barium	10	8.7	9.6
Beryllium	-	-	-
Cadmium	-	-	-
Calcium	420	-	-
Chromium	16	-	8.2
Cobalt	-	-	-
Copper	-	-	-
Iron	17,000	6000	5500
Lead	6.5J	2.9J	3.7J
Magnesium	140J	-	78
Manganese	-	-	-
Mercury	-	-	-
Nickel	-	-	-
Potassium	-	-	-
Selenium	-	-	-
Silver	-	-	-
Sodium	-	-	-
Thallium	-	-	-
Tin	NA	NA	NA
Vanadium	41	16	19
Zinc	-	-	-
Cyanide	-	-	-

J Estimated Value
N Presumptive Evidence of Presence of Material
- Material analyzed for but not detected
NA Not analyzed
* No organic compounds were detected in subsurface soil samples

TABLE 4-5

SUMMARY OF ORGANIC ANALYTICAL RESULTS
SEDIMENT SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (ug/L)	CI-SD-01	CI-SD-02	CI-SD-03
Purgeable Compounds			
Methylene Chloride	-	-	-
Toluene	-	-	-
Acetone	-	-	-
Extractable Compounds			
Naphthalene	-	-	-
Acenaphthene	-	-	-
Fluorene	-	-	-
Phenanthrene	-	-	-
Anthracene	-	-	-
DI-N-Butylphthalate	-	-	-
Fluoranthene	45J	-	-
Pyrene	-	-	-
BIS (2-Ethylhexyl) Phthalate	-	-	-
Benzo (A) Anthracene	-	-	-
Chrysene	-	-	-
DI-N-Octylphthalate	-	-	-
Benzo (B and/or K) Fluoranthene	-	-	-
Benzo-A-Pyrene	-	-	-
Indeno (1, 2, 3-CD) Pyrene	-	-	-
Dibenzo (A,H) Anthracene	-	-	-
Benzo (GHI) Perylene	-	-	-
Pentachlorophenol,	-	-	-
Benzoic Acid	-	-	-
4-Methylphenol	-	-	-
Dibenzofuran	-	-	-

J Estimated Value
N Presumptive Evidence of Presence of Material
- Material analyzed for but not detected

TABLE 4-5

SUMMARY OF ORGANIC ANALYTICAL RESULTS
SEDIMENT SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (ug/L)	CI-SD-01	CI-SD-02	CI-SD-03
(3-and/or 4-) Methylphenol	-	63J	-
2-Methylnaphthalene	-	-	-
Carbazole	-	-	-
Benzofluoranthene (Not B or K)	-	-	-
Bromohexane	-	1000JN	600JN
Pentacosane	-	-	-
N-Nitrosodiphenylamine/Diphenylamine	-	-	-
Petroleum Product	-	-	-
Unidentified Compounds/No.	-	20000J/11	500J/1
Pesticide/PCB Compounds			
Dieldrin	-	-	-

J Estimated Value
N Presumptive Evidence of Presence of Material
\- Material analyzed for but not detected

TABLE 4-6

SUMMARY OF INORGANIC ANALYTICAL RESULTS
SEDIMENT SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (mg/kg)	CI-SD-01	CI-SD-02	CI-SD-03
Aluminum	380	820	450
Antimony	-	-	-
Arsenic	-	-	-
Barium	-	19	-
Beryllium	-	-	-
Cadmium	-	-	-
Calcium	-	-	-
Chromium	2.7	-	-
Cobalt	-	-	-
Copper	11	-	-
Iron	460	1200	660
Lead	1.6J	2.3J	3J
Magnesium	-	64	-
Manganese	-	10	-
Mercury	-	-	-
Nickel	-	-	-
Potassium	-	-	-
Selenium	-	-	-
Silver	-	-	-
Sodium	-	-	-
Thallium	-	-	-
Tin	NA	NA	NA
Vanadium	-	3.7	-
Zinc	-	-	-
Cyanide	-	-	-

J Estimated Value
N Presumptive Evidence of Presence of Material
\- Material analyzed for but not detected

TABLE 4-7

SUMMARY OF ORGANIC ANALYTICAL RESULTS
SURFACE WATER SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (ug/L)	CI-SW-01	CI-SW-02	CI-SW-03
Purgeable Compounds			
Methylene Chloride	-	-	-
Toluene	-	-	-
Acetone	-	-	-
Extractable Compounds			
Naphthalene	-	-	-
Acenaphthene	-	-	-
Fluorene	-	-	-
Phenanthrene	-	-	-
Anthracene	-	-	-
DI-N-Butylphthalate	-	3J	-
Fluoranthene	-	-	-
Pyrene	-	-	-
BIS (2-Ethylhexyl) Phthalate	-	-	-
Benzo (A) Anthracene	-	-	-
Chrysene	-	-	-
DI-N-Octylphthalate	-	-	-
Benzo (B and/or K) Fluoranthene	-	-	-
Benzo-A-Pyrene	-	-	-
Indeno (1, 2, 3-CD) Pyrene	-	-	-
Dibenzo (A,H) Anthracene	-	-	-
Benzo (GHI) Perylene	-	-	-
Pentachlorophenol	-	-	-
Benzoic Acid	-	-	-
4-Methylphenol	-	-	-
Dibenzofuran	-	-	-

J Estimated value
N Presumptive evidence of presence of material
\- Material analyzed for but not detected

TABLE 4-7

SUMMARY OF ORGANIC ANALYTICAL RESULTS
SURFACE WATER SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (ug/L)	CI-SW-01	CI-SW-02	CI-SW-03
(3-and/or 4-) Methylphenol	-	-	-
2-Methylnaphthalene	-	-	-
Carbazole	-	-	-
Benzofluoranthene (Not B or K)	-	-	-
Bromohexane	-	-	-
Pentacosane	-	-	-
N-Nitrosodiphenylamine/Diphenylamine	-	3J	-
Petroleum Product	-	-	-
Unidentified Compounds/No.	-	-	-
Pesticide/PCB Compounds			
Dieldrin	-	-	-

J Estimated value
N Presumptive evidence of presence of material
\- Material analyzed for but not detected

TABLE 4-8

SUMMARY OF INORGANIC ANALYTICAL RESULTS
SURFACE WATER SAMPLES
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG COUNTY, SOUTH CAROLINA

Parameters (mg/kg)	CI-SW-01	CI-SW-02	CI-SW-03
Aluminum	-	5300	-
Antimony	-	-	-
Arsenic	-	7JN	-
Barium	30	190	30
Beryllium	-	-	-
Cadmium	-	-	-
Calcium	23000	30000	23000
Chromium	-	-	-
Cobalt	-	-	-
Copper	-	-	-
Iron	1000J	2900J	950J
Lead	-	-	-
Magnesium	1800	3000	2000
Manganese	26	130	26
Mercury	-	-	-
Nickel	-	-	-
Potassium	2400	96000	2700
Selenium	-	-	-
Silver	-	-	-
Sodium	8900	440000	8600
Thallium	-	-	-
Tin	NA	NA	NA
Vanadium	-	2.2	-
Zinc	-	-	-
Cyanide	-	-	-

J - Estimated Value
N - Presumptive Evidence of Presence of Material
\- Material analyzed for but not detected

4.6.2 Sediment Samples

The only thing revealed in the organic analyses for sediment samples was the detection of an estimated 63 ug/L of methylphenol in sample CI-SD-02.

In the inorganic analyses, iron, and lead were found in small concentrations in the three sediment samples. Sample CI-SD-02 also showed levels of barium, manganese, magnesium, and vanadium which were all above background. A summary of organic and inorganic soil contaminants are listed in Tables 4-5 and 4-6.

4.6.3 Surface Water Samples

Two organic compounds were detected in the surface water at Champion International. These were Di-n-butylphthalate and n-nitrosodiphenylamine/diphenylamine and were found in sample CI-SW-02. Both were found at estimated concentrations of 3 ug/L.

Several inorganic compounds were found in sample SW-02 in concentrations higher than those of background. These included aluminum, barium, calcium, iron, magnesium, manganese, potassium, and vanadium. Magnesium and potassium were the only compounds with elevated levels in Sample CI-SW-03. Summaries of the organic and inorganic surface water contaminants are listed in Tables 4-7 and 4-8.

4.7 ANALYTICAL DATA QUALITY

All analytical data were subjected to a quality assurance/quality control (QA/QC) review as described in the EPA Environmental Services Division Laboratory Data Evaluation Guidelines. Data reported above minimum detection limits have been compiled and are presented in Tables 4-2 through 4-8. The complete analytical data sheets are provided in Appendix A. As shown in the summary tables, some of the organic and inorganic parameters were assigned estimated concentrations. This means that the qualitative analysis was acceptable, but the reported concentration should not be considered accurate. A few other parameters were noted as being detected based on the presumptive evidence of presence of the material. This means that the compound was tentatively identified, and its detection cannot be used as a positive identification as to its presence. Some of the data have been determined to be invalid according to QA/QC procedures. Invalid data was not used in this report. Resampling and analysis would be necessary to confirm the results of all invalid data.

4.8 METHODOLOGY

All sample collection, sample preservation, and chain-of-custody procedures used during this investigation will be in accordance with the standard operating procedures as specified in Section 3 and 4 of the Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual; United States Environmental Protection Agency, Region IV, Environmental Services Division, April 1, 1986.

All laboratory analyses and laboratory quality assurance procedures used during this investigation were in accordance with standard procedures and protocols as specified in the Analytical Support Branch Operations and Quality Assurance Manual; United States Environmental Protection Agency, Region IV, Environmental Services Division; revised April 1, 1986 or as specified by the existing United States Environmental Protection Agency standard procedures and protocols for the contract analytical laboratory program.

5.0 SUMMARY

The sampling investigation of Champion International Corporation consisted of collection and chemical analysis of 13 environmental samples including surface soil, subsurface soil, sediment, and surface water. Groundwater samples were not taken because no downgradient wells were available, and there were not enough significant targets to warrant installation of temporary wells.

The study revealed that there are some elevated levels of organic and inorganic compounds present on site, especially around the drum storage area. The organics that were found are indicative of coal tar creosote and could have come from a number of sources. The phthalates that were found were probably constituents of the formaldehyde glue sludge that was recorded as being present on site. There were inorganic contaminant levels above background in all the samples, but these could be naturally occurring.

The city of Orangeburg gets water from the North Edisto River and the surface water intake lies 2.5 miles from the site. There are a few residents with private wells surrounding Champion International, but it is believed to be approximately 20. There would be concern about the Middle Penn Creek and Carolina Bays but analytical data does not warrant such a concern.

Based on the results of this investigation, FIT recommends that Champion International Corporation be reevaluated under the revised Hazard Ranking System.

REFERENCES

1. Ozzie Fogle, Manager, Decolam, Inc. Telephone conversation with Teresa Sawyer, NUS Corporation, December 12, 1988. Subject: Chronological History and manufacturing process.

2 James M. Burckhalter, Environmental Quality Manager, Aiken Environmental Quality Control (EQC), memo to Jerri Higgins, Geologist, NUS Corporation, March 9, 1988. Subject: Current status of Champion International Corporation.

3. EPA Notification of Hazardous Waste Activity (EPA Form 8700-12) for Champion International Corporation, Orangeburg, S.C. filed by Fred Rigden, previous Operations Manager, August 15, 1980.

4. EPA Notification of Hazardous Waste Site (EPA form 2000-01) for Champion International Corporation, filed by Richard C. Wigger, former Vice President.

5. Potential Hazardous Waste Site Preliminary Assessment (EPA form 2070-2), filed by Debbie Browning, September 14, 1982.

6. J. Rick Grant, Waste Engineering Section of the Bureau of Solid and Hazardous Waste, Columbia, S.C., Letter to Kurt J. Penny, Champion International Corporation, October 31, 1983. Subject: Disposal approval with conditions.

7. James M. Burckhalter, Environmental Quality Manager, Aiken Environmental Quality Control (EQC), Columbia, S.C., Letter to Ozzie Fogle, Manager, Champion International Corporation, August 27, 1981. Subject: Problems with disposal practices at Champion International Corporation.

8. Randall E. French, Industrial Solid Waste Consultant, interoffice memorandum to Charles M. Kelly, Manager, Industrial Waste Section, South Carolina Department of Health and Environmental Control, September 17, 1974. Subject: Inspection of closed dump at Champion International.

9. James M. Burckhalter, Environmental Quality Manager, Aiken Environmental Quality Control (EQC), memorandum to Ed Gibson, South Carolina Department of Health and Environmental Control, June 21, 1982. Subject: Interim Status Inspection.

10. James M. Burckhalter, Environmental Quality Manager, Aiken Environmental Quality Control (EQC), memo to John Cain, Solid and Hazardous Waste Division, South Carolina Department of Health and Environmental Control, May 14, 1987. Subject: Cover letter for references.

11. Hazardous Waste Facility Permit application, for Champion International Corporation, Orangeburg, S.C., South Carolina Department of Health and Environmental Control, filed by Ron D. Presley, past owner, September 9, 1980.

12. NUS Corporation Field Logbook No. F4-865 for Champion International Corporation, TDD No. F4-8801-06. Documentation for Site Screening Investigation, June 1-2, 1988.

13. Clerk, City Hall of Orangeburg, S.C., telephone conversation with Teresa Sawyer, NUS Corporation, August 30, 1988. Subject: Population of Orangeburg, S.C.

14. U.S. Geological Survey, 7.5 minute series Topographic Quadrangle Map of South Carolina, Orangeburg South 1982.

15. Thomas F. Berry, owner, Berry Drilling Company. Telephone conversation with Jerri Higgins, NUS Corporation, March 23, 1988. Subject: Aquifers and depth to water table in Orangeburg, S.C.

16. George E. Siple, Groundwater Resources of Orangeburg County, South Carolina, Bulletin No. 36, South Carolina State Development Board, 1975.

17. G.W. Ackerman, owner, Ackerman-Carolina Drilling Company. Telephone conversation with Jerri Higgins, NUS Corporation, March 24, 1988. Subject: Depth to water table in Orangeburg, S.C.

18. NUS Corporation Field Logbook No. F4-623 for Champion International Corporation, TDD No. F4-8801-06. Documentation of facility reconnaissance, January 13, 1988.

19. Michael Sells, City of Orangeburg Water Department. Telephone conversation with Teresa Sawyer, NUS Corporation, September 15, 1988. Subject: Number of water connections.

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PAGE 1

HAZARD RANKING SYSTEM SCORING SUMMARY

FOR

CHAMPION INTERNATIONAL CORPORATION
EPA SITE NUMBER SCD003342177
ORANGEBURG
ORANGEBURG COUNTY, SC
EPA REGION: 4

SCORE STATUS: IN PREPARATION

SCORED BY Teresa Sawyer
OF NUS CORPORATION
ON 12/13/88

DATE OF THIS REPORT: 12/13/88
DATE OF LAST MODIFICATION: 12/13/88

GROUND WATER ROUTE SCORE	:	19.62
SURFACE WATER ROUTE SCORE	:	9.79
AIR ROUTE SCORE	:	0.00
MIGRATION SCORE	:	12.68

SITE: CHAMPION INTERNATIONAL CORPORATION

HRS GROUND WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. ROUTE CHARACTERISTICS			
DEPTH TO WATER TABLE	40 FEET		
DEPTH TO BOTTOM OF WASTE	6 FEET		
DEPTH TO AQUIFER OF CONCERN	34 FEET	2	4
PRECIPITATION	46.4 INCHES		
EVAPORATION	43.0 INCHES		
NET PRECIPITATION	3.4 INCHES	1	1
PERMEABILITY	1.0X10-4 CM/SEC	2	2
PHYSICAL STATE		3	3
TOTAL ROUTE CHARACTERISTICS SCORE:			10
3. CONTAINMENT		3	3
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:PENTACHLOROPHENOL			18
WASTE QUANTITY CUBIC YDS	0		
DRUMS	10000		
GALLONS	0		
TONS	0		
TOTAL	2500 CU. YDS	7	7
TOTAL WASTE CHARACTERISTICS SCORE:			25
5. TARGETS			
GROUND WATER USE		3	9
DISTANCE TO NEAREST WELL	9240 FEET		
AND	MATRIX VALUE	6	6
TOTAL POPULATION SERVED	76 PERSONS		
NUMBER OF HOUSES	20		
NUMBER OF PERSONS	0		
NUMBER OF CONNECTIONS	0		
NUMBER OF IRRIGATED ACRES	0		
TOTAL TARGETS SCORE:			15

GROUND WATER ROUTE SCORE (Sgw) = 19.62

HRS SURFACE WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. ROUTE CHARACTERISTICS			
SITE LOCATED IN SURFACE WATER	NO		
SITE WITHIN CLOSED BASIN	NO		
FACILITY SLOPE	2.5 %		
INTERVENING SLOPE	2.5 %	0	0
24-HOUR RAINFALL	3.5 INCHES	3	3
DISTANCE TO DOWN-SLOPE WATER	0 FEET	3	6
PHYSICAL STATE	3		3
TOTAL ROUTE CHARACTERISTICS SCORE:			12
3. CONTAINMENT	3		3
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:PENTACHLOROPHENOL			18
WASTE QUANTITY CUBIC YDS	0		
DRUMS	10000		
GALLONS	0		
TONS	0		
TOTAL	2500 CU. YDS	7	7
TOTAL WASTE CHARACTERISTICS SCORE:			25
5. TARGETS			
SURFACE WATER USE		1	3
DISTANCE TO SENSITIVE ENVIRONMENTS		2	4
COASTAL WETLANDS	NONE		
FRESH-WATER WETLANDS	2000 FEET		
CRITICAL HABITAT	2000 FEET		
DISTANCE TO STATIC WATER	> 3 MILES		
DISTANCE TO WATER SUPPLY INTAKE	13190 FEET		
AND	MATRIX VALUE	0	0
TOTAL POPULATION SERVED	0		
NUMBER OF HOUSES	0		
NUMBER OF PERSONS	0		
NUMBER OF CONNECTIONS	0		
NUMBER OF IRRIGATED ACRES	0		
TOTAL TARGETS SCORE:			7

SURFACE WATER ROUTE SCORE (Ssw) = 9.79

HRS AIR ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0

2. WASTE CHARACTERISTICS

REACTIVITY: MATRIX VALUE

INCOMPATIBILITY

TOXICITY

WASTE QUANTITY CUBIC YARDS
DRUMS
GALLONS
TONS

TOTAL

TOTAL WASTE CHARACTERISTICS SCORE: N/A

3. TARGETS

POPULATION WITHIN 4-MILE RADIUS
0 to 0.25 mile
0 to 0.50 mile
0 to 1.0 mile
0 to 4.0 miles

DISTANCE TO SENSITIVE ENVIRONMENTS
COASTAL WETLANDS
FRESH-WATER WETLANDS
CRITICAL HABITAT

DISTANCE TO LAND USES
COMMERCIAL/INDUSTRIAL
PARK/FOREST/RESIDENTIAL
AGRICULTURAL LAND
PRIME FARMLAND
HISTORIC SITE WITHIN VIEW?

TOTAL TARGETS SCORE: N/A

AIR ROUTE SCORE (Sa) = 0.00

HAZARD RANKING SYSTEM SCORING CALCULATIONS
FOR
SITE: CHAMPION INTERNATIONAL CORPORATION
AS OF 12/13/88

GROUND WATER ROUTE SCORE

ROUTE CHARACTERISTICS		10
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	25
TARGETS	X	15

= 11250 /57,330 X 100 = 19.62 = S_{gw}

SURFACE WATER ROUTE SCORE

ROUTE CHARACTERISTICS		12
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	25
TARGETS	X	7

= 6300 /64,350 X 100 = 9.79 = S_{sw}

AIR ROUTE SCORE

OBSERVED RELEASE 0 /35,100 X 100 = 0.00 = S_{air}

SUMMARY OF MIGRATION SCORE CALCULATIONS

	S	S^2
GROUND WATER ROUTE SCORE (S_{gw})	19.62	384.94
SURFACE WATER ROUTE SCORE (S_{sw})	9.79	95.84
AIR ROUTE SCORE (S_{air})	0.00	0.00
$S^2_{gw} + S^2_{sw} + S^2_{air}$		480.78
$\sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}$		21.93
$S_M = \sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}/1.73$		12.68

HAZARD RANKING SYSTEM SCORING SUMMARY

FOR

CHAMPION INTERNATIONAL CORPORATION
EPA SITE NUMBER SCD003342177
ORANGEBURG
ORANGEBURG COUNTY, SC
EPA REGION: 4

SCORE STATUS: IN PREPARATION

SCORED BY Teresa Sawyer
OF NUS CORPORATION
ON 12/13/88

DATE OF THIS REPORT: 12/13/88
DATE OF LAST MODIFICATION: 12/13/88

GROUND WATER ROUTE SCORE	:	15.70
SURFACE WATER ROUTE SCORE	:	7.83
AIR ROUTE SCORE	:	0.00
MIGRATION SCORE	:	10.14

HRS GROUND WATER ROUTE SCORE

CATEGORY/FACTOR		RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE		NO	0	0
2. ROUTE CHARACTERISTICS				
DEPTH TO WATER TABLE		40 FEET		
DEPTH TO BOTTOM OF WASTE		6 FEET		
DEPTH TO AQUIFER OF CONCERN		34 FEET	2	4
PRECIPITATION		46.4 INCHES		
EVAPORATION		43.0 INCHES		
NET PRECIPITATION		3.4 INCHES	1	1
PERMEABILITY		1.0X10-4 CM/SEC	2	2
PHYSICAL STATE			3	3
TOTAL ROUTE CHARACTERISTICS SCORE:				10
3. CONTAINMENT			3	3
4. WASTE CHARACTERISTICS				
TOXICITY/PERSISTENCE:PENTACHLOROPHENOL				18
WASTE QUANTITY	CUBIC YDS	0		
	DRUMS	200		
	GALLONS	0		
	TONS	0		
	TOTAL	50 CU. YDS	2	2
TOTAL WASTE CHARACTERISTICS SCORE:				20
5. TARGETS				
GROUND WATER USE			3	9
DISTANCE TO NEAREST WELL		9240 FEET		
AND		MATRIX VALUE	6	6
TOTAL POPULATION SERVED		76 PERSONS		
NUMBER OF HOUSES		20		
NUMBER OF PERSONS		0		
NUMBER OF CONNECTIONS		0		
NUMBER OF IRRIGATED ACRES		0		
TOTAL TARGETS SCORE:				15

GROUND WATER ROUTE SCORE (Sgw) = 15.70

HRS SURFACE WATER ROUTE SCORE

CATEGORY/FACTOR		RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE		NO	0	0
2. ROUTE CHARACTERISTICS				
SITE LOCATED IN SURFACE WATER		NO		
SITE WITHIN CLOSED BASIN		NO		
FACILITY SLOPE		2.5 %		
INTERVENING SLOPE		2.5 %	0	0
24-HOUR RAINFALL		3.5 INCHES	3	3
DISTANCE TO DOWN-SLOPE WATER		0 FEET	3	6
PHYSICAL STATE		3		3
TOTAL ROUTE CHARACTERISTICS SCORE:				12
3. CONTAINMENT		3		3
4. WASTE CHARACTERISTICS				
TOXICITY/PERSISTENCE:PENTACHLOROPHENOL				18
WASTE QUANTITY	CUBIC YDS	0		
	DRUMS	200		
	GALLONS	0		
	TONS	0		
	TOTAL	50 CU. YDS	2	2
TOTAL WASTE CHARACTERISTICS SCORE:				20
5. TARGETS				
SURFACE WATER USE			1	3
DISTANCE TO SENSITIVE ENVIRONMENTS			2	4
COASTAL WETLANDS		NONE		
FRESH-WATER WETLANDS		2000 FEET		
CRITICAL HABITAT		2000 FEET		
DISTANCE TO STATIC WATER		> 3 MILES		
DISTANCE TO WATER SUPPLY INTAKE		13190 FEET		
AND		MATRIX VALUE	0	0
TOTAL POPULATION SERVED		0		
NUMBER OF HOUSES		0		
NUMBER OF PERSONS		0		
NUMBER OF CONNECTIONS		0		
NUMBER OF IRRIGATED ACRES		0		
TOTAL TARGETS SCORE:				7

SURFACE WATER ROUTE SCORE (Ssw) = 7.83

HRS AIR ROUTE SCORE

	CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1.	OBSERVED RELEASE	NO	0	0

2. WASTE CHARACTERISTICS

REACTIVITY: MATRIX VALUE

INCOMPATIBILITY

TOXICITY

WASTE QUANTITY CUBIC YARDS
DRUMS
GALLONS
TONS

TOTAL

TOTAL WASTE CHARACTERISTICS SCORE: N/A

3. TARGETS

POPULATION WITHIN 4-MILE RADIUS
0 to 0.25 mile
0 to 0.50 mile
0 to 1.0 mile
0 to 4.0 miles

DISTANCE TO SENSITIVE ENVIRONMENTS
COASTAL WETLANDS
FRESH-WATER WETLANDS
CRITICAL HABITAT

DISTANCE TO LAND USES
COMMERCIAL/INDUSTRIAL
PARK/FOREST/RESIDENTIAL
AGRICULTURAL LAND
PRIME FARMLAND
HISTORIC SITE WITHIN VIEW?

TOTAL TARGETS SCORE: N/A

AIR ROUTE SCORE (Sa) = 0.00

POOR LEGIBILITY

PORTIONS OF THIS DOCUMENT MAY BE UNREADABLE, DUE TO THE QUALITY OF THE ORIGINAL

HAZARD RANKING SYSTEM SCORING SUMMARY

FOR

CHAMPION INTERNATIONAL CORPORATION
EPA SITE NUMBER SCD003342177
ORANGEBURG
ORANGEBURG COUNTY, SC
EPA REGION: 4

SCORE STATUS: IN PREPARATION

SCORED BY JERRI HIGGINS
OF NUS CORPORATION
ON 01/25/88

DATE OF THIS REPORT: 03/30/88
DATE OF LAST MODIFICATION: 03/30/88

GROUND WATER ROUTE SCORE	:	34.29
SURFACE WATER ROUTE SCORE	:	14.55
AIR ROUTE SCORE	:	0.00
MIGRATION SCORE	:	21.53

HRS GROUND WATER ROUTE SCORE

CATEGORY/FACTOR		RAW DATA	ASN. VALUE	SCORE
1. **OBSERVED** RELEASE		NO	0	0
2. **ROUTE** CHARACTERISTICS				
DEPTH TO WATER TABLE		40 FEET		
DEPTH TO BOTTOM OF WASTE		6 FEET		
DEPTH TO AQUIFER OF CONCERN		34 FEET	2	4
PRECIPITATION		48.0 INCHES		
EVAPORATION		43.0 INCHES		
NET PRECIPITATION		5.0 INCHES	2	2
PERMEABILITY		1.0X10-2 CM/SEC	3	3
PHYSICAL STATE			3	3
TOTAL ROUTE CHARACTERISTICS SCORE:				12
3. **CONTAINMENT**			3	3
4. **WASTE** CHARACTERISTICS				
TOXICITY/PERSISTENCE:CHROMIUM				18
WASTE QUANTITY	CUBIC YDS	0		
	DRUMS	10001		
	GALLONS	0		
	TONS	0		
	TOTAL	2500 CU. YDS	8	8
TOTAL WASTE CHARACTERISTICS SCORE:				26
5. **TARGETS**				
GROUND WATER USE			3	9
DISTANCE TO NEAREST WELL		7500 FEET		
AND		MATRIX VALUE	12	12
TOTAL POPULATION SERVED		285 PERSONS		
NUMBER OF HOUSES		75		
NUMBER OF PERSONS		0		
NUMBER OF CONNECTIONS		0		
NUMBER OF IRRIGATED ACRES		0		
TOTAL TARGETS SCORE:				21

GROUND WATER ROUTE SCORE (Sgw) = 34.29

HRS SURFACE WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. ROUTE CHARACTERISTICS			
SITE LOCATED IN SURFACE WATER	NO		
SITE WITHIN CLOSED BASIN	NO		
FACILITY SLOPE	2.5 %		
INTERVENING SLOPE	2.5 %	0	0
24-HOUR RAINFALL	3.5 INCHES	3	3
DISTANCE TO DOWN-SLOPE WATER	5 FEET	3	6
PHYSICAL STATE	3		3
TOTAL ROUTE CHARACTERISTICS SCORE:			12
3. CONTAINMENT	3		3
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:CHROMIUM			18
WASTE QUANTITY CUBIC YDS	0		
DRUMS	10001		
GALLONS	0		
TONS	0		
TOTAL	2500 CU. YDS	8	8
TOTAL WASTE CHARACTERISTICS SCORE:			26
5. TARGETS			
SURFACE WATER USE		2	6
DISTANCE TO SENSITIVE ENVIRONMENTS		2	4
COASTAL WETLANDS	NONE		
FRESH-WATER WETLANDS	2000 FEET		
CRITICAL HABITAT	2000 FEET		
DISTANCE TO STATIC WATER	> 3 MILES		
DISTANCE TO WATER SUPPLY INTAKE	> 3 MILES		
AND	MATRIX VALUE	0	0
TOTAL POPULATION SERVED	0		
NUMBER OF HOUSES	0		
NUMBER OF PERSONS	0		
NUMBER OF CONNECTIONS	0		
NUMBER OF IRRIGATED ACRES	0		
TOTAL TARGETS SCORE:			10

[illegible] WATER ROUTE SCORE [illegible] 4.55

SITE: CHAMPION INTERNATIONAL CORPORATION

HRS AIR ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0

2. WASTE CHARACTERISTICS

REACTIVITY: MATRIX VALUE

INCOMPATIBILITY

TOXICITY

WASTE QUANTITY
- CUBIC YARDS
- DRUMS
- GALLONS
- TONS

TOTAL

TOTAL WASTE CHARACTERISTICS SCORE: N/A

3. TARGETS

POPULATION WITHIN 4-MILE RADIUS
- 0 to 0.25 mile
- 0 to 0.50 mile
- 0 to 1.0 mile
- 0 to 4.0 miles

DISTANCE TO SENSITIVE ENVIRONMENTS
- COASTAL WETLANDS
- FRESH-WATER WETLANDS
- CRITICAL HABITAT

DISTANCE TO LAND USES
- COMMERCIAL/INDUSTRIAL
- PARK/FOREST/RESIDENTIAL
- AGRICULTURAL LAND
- PRIME FARMLAND
- HISTORIC SITE WITHIN VIEW?

TOTAL TARGETS SCORE: N/A

AIR ROUTE SCORE (Sa) = 0.00

HAZARD RANKING SYSTEM SCORING CALCULATIONS
FOR
SITE: CHAMPION INTERNATIONAL CORPORATION
AS OF 03/30/88

GROUND WATER ROUTE SCORE

ROUTE CHARACTERISTICS		12
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	26
TARGETS	X	21

= 19656 /57,330 X 100 = 34.29 = S_{gw}

SURFACE WATER ROUTE SCORE

ROUTE CHARACTERISTICS		12
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	26
TARGETS	X	10

= 9360 /64,350 X 100 = 14.55 = S_{sw}

AIR ROUTE SCORE

OBSERVED RELEASE 0 /35,100 X 100 = 0.00 = S_{air}

SUMMARY OF MIGRATION SCORE CALCULATIONS

	S	S^2
GROUND WATER ROUTE SCORE (S_{gw})	34.29	1175.80
SURFACE WATER ROUTE SCORE (S_{sw})	14.55	211.70
AIR ROUTE SCORE (S_{air})	0.00	0.00
$S^2_{gw} + S^2_{sw} + S^2_{air}$		1387.50
$\sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}$		37.25
$S_M = \sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}/1.73$		21.53

RECONNAISSANCE CHECKLIST FOR HRS2 CONCERNS

Instructions: Obtain as much "up front" information as possible prior to conducting fieldwork. Complete the form in as much detail as you can, providing attachments as necessary. Cite the source for all information obtained.

Site name: Champion International Corporation
City, County, State: Orangeburg, Orangeburg, South Carolina
EPA ID No.: SCD003342177
Person responsible for form: Jerri Higgins
Date: 03/25/88

Air Pathway

Describe any potential air emission sources onsite: Glues & solvents used at plant. Burning of glue sludge in fuel-fired boilers without district air personnel being aware.

Identify any sensitive environments within 4 miles: Carolina Bays, fresh water wetlands, marshy areas surround the area (topo map, Ref 11, 13)

Identify the maximally exposed individual (nearest residence or regularly occupied building - workers do count): Workers at Decolam, Inc. (Ref. 1)

Groundwater Pathway

Identify any areas of karst terrain: — N/A

Identify additional population due to consideration of wells completed in overlying aquifers to the AOC: — N/A

Do significant targets exist between 3 and 4 miles from the site? no municipal supplies.

Is the AOC a sole source aquifer according to Safe Drinking Water Act? (i.e. is the site located in Dade, Broward, Volusia, Putnam, or Flager County, Florida) no

Surface Water Pathway

Are there intakes located on the extended 15-mile migration pathway? no

Are there recreational areas, sensitive environments, or human food chain targets (fisheries) along the extended pathway? yes, Middle Pen Creek, swamps, Carolina Bays.

Onsite Exposure Pathway

Is there waste or contaminated soil onsite at 2 feet below land surface or higher? yes, drums at rear (Ref. 7, 8)

Is the site accessible to non-employees (workers do not count)? not sure
in a dense industrial area, difficult to see back into property for a fence

Are there residences, schools, or daycare centers onsite or in close proximity?
yes, Whittaker School, directly behind facility, less than 500 feet away (topo map)

Are there barriers to travel (e.g., a river) within one mile? yes, Middle Pen Creek (topo map)

Appendix A

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26416 SAMPLE TYPE: SEDIM
SOURCE: CHAMPION INTERNATION
STATION ID: SD-03

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J412

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
13UJ	CHLOROMETHANE	6UJ	CIS-1,3-DICHLOROPROPENE
13U	BROMOMETHANE	6UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
13U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
30UJ	METHYLENE CHLORIDE	6U	BENZENE
20UJ	ACETONE	6UJ	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6UJ	BROMOFORM
6U	1,1-DICHLOROETHANE	13U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	13UJ	METHYL BUTYL KETONE
6U	CHLOROFORM	6UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6UJ	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
13UR	METHYL ETHYL KETONE	6U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
13U	VINYL ACETATE	6U	STYRENE
6UJ	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	22	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26418 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-03

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J416

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
10U	METHYLENE CHLORIDE	5U	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5U	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	30U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE	3	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26427 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-04 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J420

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
20U	METHYLENE CHLORIDE	5U	BENZENE
30UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5U	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	20U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE	4	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26424 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-05 REGION IV QC BLANK COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J426

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE	6U	CIS-1,3-DICHLOROPROPENE
12U	BROMOMETHANE	6U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
12U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
13	METHYLENE CHLORIDE	6U	BENZENE
41	ACETONE	6U	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6U	BROMOFORM
6U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	12U	METHYL BUTYL KETONE
6U	CHLOROFORM	6U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6U	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
12U	METHYL ETHYL KETONE	21	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
12U	VINYL ACETATE	6U	STYRENE
6U	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	15	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26412 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNAIION
STATION ID: SB-01

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J411

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12UJ	CHLOROMETHANE	6UJ	CIS-1,3-DICHLOROPROPENE
12U	BROMOMETHANE	6UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
12U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
20UJ	METHYLENE CHLORIDE	6U	BENZENE
20UJ	ACETONE	6UJ	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6UJ	BROMOFORM
6U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	12UJ	METHYL BUTYL KETONE
6U	CHLOROFORM	6UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6UJ	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
12UR	METHYL ETHYL KETONE	70U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
12U	VINYL ACETATE	6U	STYRENE
6UJ	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	15	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26414 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-01 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J408

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12UJ	CHLOROMETHANE	6UJ	CIS-1,3-DICHLOROPROPENE
12U	BROMOMETHANE	6UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
12U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
20UJ	METHYLENE CHLORIDE	6U	BENZENE
30UJ	ACETONE	6UJ	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6UJ	BROMOFORM
6U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	12UJ	METHYL BUTYL KETONE
6U	CHLOROFORM	6UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6UJ	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
12UR	METHYL ETHYL KETONE	6U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
12U	VINYL ACETATE	6U	STYRENE
6UJ	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	18	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26411 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGFBURG ST: SC
STATION ID: SS-01 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J409

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
10UJ	CHLOROMETHANE	5UJ	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10UJ	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
7UJ	METHYLENE CHLORIDE	5U	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5UJ	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10UJ	METHYL BUTYL KETONE
5U	CHLOROFORM	5UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	40U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE	2	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26417 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: CS-02

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGFBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J414

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
22U	CHLOROMETHANE	11U	CIS-1,3-DICHLOROPROPENE
22U	BROMOMETHANE	11U	TRICHLOROETHENE(TRICHLOROETHYLENE)
22U	VINYL CHLORIDE	11U	DIBROMOCHLOROMETHANE
22U	CHLOROETHANE	11U	1,1,2-TRICHLOROETHANE
50U	METHYLENE CHLORIDE •	11U	BENZENE
200UJ	ACETONE	11U	TRANS-1,3-DICHLOROPROPENE
11U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
11U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	11U	BROMOFORM
11U	1,1-DICHLOROETHANE	22U	METHYL ISOBUTYL KETONE
11U	1,2-DICHLOROETHENE (TOTAL)	22U	METHYL BUTYL KETONE
11U	CHLOROFORM	11U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
11U	1,2-DICHLOROETHANE	11U	1,1,2,2-TETRACHLOROETHANE
22UR	METHYL ETHYL KETONE	500U	TOLUENE
11U	1,1,1-TRICHLOROETHANE	11U	CHLOROBENZENE
11U	CARBON TETRACHLORIDE	11U	ETHYL BENZENE
22U	VINYL ACETATE	11U	STYRENE
11U	BROMODICHLOROMETHANE	11U	TOTAL XYLENES
11U	1,2-DICHLOROPROPANE	10	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26422 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SB-02 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J419

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
11U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
11U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
11U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
11U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
20U	METHYLENE CHLORIDE	5U	BENZENE
30UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5U	1,1-DICHLOROETHANE	11U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	11U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
11UR	METHYL ETHYL KETONE	5U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
11U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE	8	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26421 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-02 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J415

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12UJ	CHLOROMETHANE	6UJ	CIS-1,3-DICHLOROPROPENE
12U	BROMOMETHANE	6UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
12U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
20UJ	METHYLENE CHLORIDE	6U	BENZENE
40UJ	ACETONE	6UJ	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6UJ	BROMOFORM
6U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	12UJ	METHYL BUTYL KETONE
6U	CHLOROFORM	6UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6UJ	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
12UR	METHYL ETHYL KETONE	20U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
12U	VINYL ACETATE	6U	STYRENE
6UJ	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	19	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26419   SAMPLE TYPE: SOIL   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGFBURG   ST: SC
STATION ID: SB-03   COLLECTION START: 06/02/88   STOP: 00/00/00

CASE NO.: 9702   SAS NO.:   D. NO.: J417

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
11U	CHLOROMETHANE	6U	CIS-1,3-DICHLOROPROPENE
11U	BROMOMETHANE	6U	TRICHLOROETHENE(TRICHLOROETHYLENE)
11U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
11U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
60U	METHYLENE CHLORIDE	6U	BENZENE
20UJ	ACETONE	6U	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6U	BROMOFORM
6U	1,1-DICHLOROETHANE	11U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	11U	METHYL BUTYL KETONE
6U	CHLOROFORM	6U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6U	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
11UR	METHYL ETHYL KETONE	6U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
11U	VINYL ACETATE	6U	STYRENE
6U	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	11	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26412 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SB-01
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J411

UG/KG	ANALYTICAL RESULTS
390U	PHENOL
390U	BIS(2-CHLOROETHYL) ETHER
390U	2-CHLOROPHENOL
390U	1,3-DICHLOROBENZENE
390U	1,4-DICHLOROBENZENE
390U	BENZYL ALCOHOL
390U	1,2-DICHLOROBENZENE
390U	2-METHYLPHENOL
390U	BIS(2-CHLOROISOPROPYL) ETHER
390U	(3-AND/OR 4-)METHYLPHENOL
390U	N-NITROSODI-N-PROPYLAMINE
390U	HEXACHLOROETHANE
390U	NITROBENZENE
390U	ISOPHORONE
390U	2-NITROPHENOL
390U	2,4-DIMETHYLPHENOL
1900UJ	BENZOIC ACID
390U	BIS(2-CHLOROETHOXY) METHANE
390U	2,4-DICHLOROPHENOL
390U	1,2,4-TRICHLOROBENZENE
390U	NAPHTHALENE
390UJ	4-CHLOROANILINE
390UJ	HEXACHLOROBUTADIENE
390U	4-CHLORO-3-METHYLPHENOL
390U	2-METHYLNAPHTHALENE
390UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)
390U	2,4,6-TRICHLOROPHENOL
1900U	2,4,5-TRICHLOROPHENOL
390U	2-CHLORONAPHTHALENE
1900U	2-NITROANILINE
390U	DIMETHYL PHTHALATE
390U	ACENAPHTHYLENE
390U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1900U	3-NITROANILINE
390U	ACENAPHTHENE
1900UJ	2,4-DINITROPHENOL
1900UJ	4-NITROPHENOL
390U	DIBENZOFURAN
390U	2,4-DINITROTOLUENE
390U	DIETHYL PHTHALATE
390U	4-CHLOROPHENYL PHENYL ETHER
390U	FLUORENE
1900U	4-NITROANILINE
1900U	2-METHYL-4,6-DINITROPHENOL
390U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
390U	4-BROMOPHENYL PHENYL ETHER
390U	HEXACHLOROBENZENE (HCB)
1900U	PENTACHLOROPHENOL
390U	PHENANTHRENE
390U	ANTHRACENE
390U	DI-N-BUTYLPHTHALATE
390U	FLUORANTHENE
390U	PYRENE
390U	BENZYL BUTYL PHTHALATE
780U	3,3'-DICHLOROBENZIDINE
390U	BENZO(A)ANTHRACENE
390U	CHRYSENE
390U	BIS(2-ETHYLHEXYL) PHTHALATE
390U	DI-N-OCTYLPHTHALATE
390U	BENZO(B AND/OR K)FLUORANTHENE
390U	BENZO-A-PYRENE
390U	INDENO (1,2,3-CD) PYRENE
390U	DIBENZO(A,H)ANTHRACENE
390U	BENZO(GHI)PERYLENE
15	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

*** PROJECT NO. 88-373 SAMPLE NO. 26414 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-01 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: J408

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
400U	PHENOL	2000U	3-NITROANILINE
400U	BIS(2-CHLOROETHYL) ETHER	400U	ACENAPHTHENE
400U	2-CHLOROPHENOL	2000UJ	2,4-DINITROPHENOL
400U	1,3-DICHLOROBENZENE	2000UJ	4-NITROPHENOL
400U	1,4-DICHLOROBENZENE	400U	DIBENZOFURAN
400U	BENZYL ALCOHOL	400U	2,4-DINITROTOLUENE
400U	1,2-DICHLOROBENZENE	400U	DIETHYL PHTHALATE
400U	2-METHYLPHENOL	400U	4-CHLOROPHENYL PHENYL ETHER
400UJ	BIS(2-CHLOROISOPROPYL) ETHER	400U	FLUORENE
400U	(3-AND/OR 4-)METHYLPHENOL	2000U	4-NITROANILINE
400UJ	N-NITROSODI-N-PROPYLAMINE	2000U	2-METHYL-4,6-DINITROPHENOL
400U	HEXACHLOROETHANE	400U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
400UJ	NITROBENZENE	400U	4-BROMOPHENYL PHENYL ETHER
400U	ISOPHORONE	400U	HEXACHLOROBENZENE (HCB)
400U	2-NITROPHENOL	2000U	PENTACHLOROPHENOL
400U	2,4-DIMETHYLPHENOL	400U	PHENANTHRENE
2000U	BENZOIC ACID	400U	ANTHRACENE
400U	BIS(2-CHLOROETHOXY) METHANE	400U	DI-N-BUTYLPHTHALATE
400U	2,4-DICHLOROPHENOL	45J	FLUORANTHENE
400U	1,2,4-TRICHLOROBENZENE	400U	PYRENE
400U	NAPHTHALENE	400U	BENZYL BUTYL PHTHALATE
400U	4-CHLOROANILINE	810U	3,3'-DICHLOROBENZIDINE
400UJ	HEXACHLOROBUTADIENE	400U	BENZO(A)ANTHRACENE
400U	4-CHLORO-3-METHYLPHENOL	400U	CHRYSENE
400U	2-METHYLNAPHTHALENE	400U	BIS(2-ETHYLHEXYL) PHTHALATE
400U	HEXACHLOROCYCLOPENTADIENE (HCCP)	400U	DI-N-OCTYLPHTHALATE
400U	2,4,6-TRICHLOROPHENOL	400UJ	BENZO(B AND/OR K)FLUORANTHENE
2000U	2,4,5-TRICHLOROPHENOL	400U	BENZO-A-PYRENE
400U	2-CHLORONAPHTHALENE	400U	INDENO (1,2,3-CD) PYRENE
2000UJ	2-NITROANILINE	400U	DIBENZO(A,H)ANTHRACENE
400U	DIMETHYL PHTHALATE	400U	BENZO(GHI)PERYLENE
400U	ACENAPHTHYLENE	18	PERCENT MOISTURE
400U	2,6-DINITROTOLUENE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26411 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-01

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J409

UG/KG	ANALYTICAL RESULTS
340U	PHENOL
340U	BIS(2-CHLOROETHYL) ETHER
340U	2-CHLOROPHENOL
340U	1,3-DICHLOROBENZENE
340U	1,4-DICHLOROBENZENE
340U	BENZYL ALCOHOL
340U	1,2-DICHLOROBENZENE
340U	2-METHYLPHENOL
340U	BIS(2-CHLOROISOPROPYL) ETHER
340U	(3-AND/OR 4-)METHYLPHENOL
340U	N-NITROSODI-N-PROPYLAMINE
340U	HEXACHLOROETHANE
340U	NITROBENZENE
340U	ISOPHORONE
340U	2-NITROPHENOL
340U	2,4-DIMETHYLPHENOL
1600UJ	BENZOIC ACID
340U	BIS(2-CHLOROETHOXY) METHANE
340U	2,4-DICHLOROPHENOL
340U	1,2,4-TRICHLOROBENZENE
340U	NAPHTHALENE
340UJ	4-CHLOROANILINE
340UJ	HEXACHLOROBUTADIENE
340U	4-CHLORO-3-METHYLPHENOL
340U	2-METHYLNAPHTHALENE
340UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)
340U	2,4,6-TRICHLOROPHENOL
1600U	2,4,5-TRICHLOROPHENOL
340U	2-CHLORONAPHTHALENE
1600U	2-NITROANILINE
340U	DIMETHYL PHTHALATE
340U	ACENAPHTHYLENE
340U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1600U	3-NITROANILINE
340U	ACENAPHTHENE
1600UJ	2,4-DINITROPHENOL
1600UJ	4-NITROPHENOL
340U	DIBENZOFURAN
340U	2,4-DINITROTOLUENE
340U	DIETHYL PHTHALATE
340U	4-CHLOROPHENYL PHENYL ETHER
340U	FLUORENE
1600U	4-NITROANILINE
1600U	2-METHYL-4,6-DINITROPHENOL
340U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
340U	4-BROMOPHENYL PHENYL ETHER
340U	HEXACHLOROBENZENE (HCB)
1600U	PENTACHLOROPHENOL
340U	PHENANTHRENE
340U	ANTHRACENE
340U	DI-N-BUTYLPHTHALATE
340U	FLUORANTHENE
340U	PYRENE
340U	BENZYL BUTYL PHTHALATE
670U	3,3'-DICHLOROBENZIDINE
340U	BENZO(A)ANTHRACENE
340U	CHRYSENE
340U	BIS(2-ETHYLHEXYL) PHTHALATE
340U	DI-N-OCTYLPHTHALATE
340U	BENZO(B AND/OR K)FLUORANTHENE
340U	BENZO-A-PYRENE
340U	INDENO (1,2,3-CD) PYRENE
340U	DIBENZO(A,H)ANTHRACENE
340U	BENZO(GHI)PERYLENE
2	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26417 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: CS-02

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J414

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
1800U	PHENOL	8900U	3-NITROANILINE
1800U	BIS(2-CHLOROETHYL) ETHER	760J	ACENAPHTHENE
1800U	2-CHLOROPHENOL	8900UJ	2,4-DINITROPHENOL
1800U	1,3-DICHLOROBENZENE	8900UJ	4-NITROPHENOL
1800U	1,4-DICHLOROBENZENE	460J	DIBENZOFURAN
1800U	BENZYL ALCOHOL	1800U	2,4-DINITROTOLUENE
1800U	1,2-DICHLOROBENZENE	1800U	DIETHYL PHTHALATE
1800U	2-METHYLPHENOL	1800U	4-CHLOROPHENYL PHENYL ETHER
1800U	BIS(2-CHLOROISOPROPYL) ETHER	760J	FLUORENE
1800U	(3-AND/OR 4-)METHYLPHENOL	8900U	4-NITROANILINE
1800U	N-NITROSODI-N-PROPYLAMINE	8900U	2-METHYL-4,6-DINITROPHENOL
1800U	HEXACHLOROETHANE	1800U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
1800U	NITROBENZENE	1800U	4-BROMOPHENYL PHENYL ETHER
1800U	ISOPHORONE	1800U	HEXACHLOROBENZENE (HCB)
1800U	2-NITROPHENOL	9500	PENTACHLOROPHENOL
1800U	2,4-DIMETHYLPHENOL	7000	PHENANTHRENE
8900UJ	BENZOIC ACID	1400J	ANTHRACENE
1800U	BIS(2-CHLOROETHOXY) METHANE	460J	DI-N-BUTYLPHTHALATE
1800U	2,4-DICHLOROPHENOL	10000	FLUORANTHENE
1800U	1,2,4-TRICHLOROBENZENE	6100	PYRENE
830J	NAPHTHALENE	1800U	BENZYL BUTYL PHTHALATE
1800UJ	4-CHLOROANILINE	3700U	3,3'-DICHLOROBENZIDINE
1800UJ	HEXACHLOROBUTADIENE	4100	BENZO(A)ANTHRACENE
1800U	4-CHLORO-3-METHYLPHENOL	4700	CHRYSENE
370J	2-METHYLNAPHTHALENE	90000	BIS(2-ETHYLHEXYL) PHTHALATE
1800U	HEXACHLOROCYCLOPENTADIENE (HCCP)	840J	DI-N-OCTYLPHTHALATE
1800U	2,4,6-TRICHLOROPHENOL	8400J	BENZO(B AND/OR K)FLUORANTHENE
8900U	2,4,5-TRICHLOROPHENOL	3300	BENZO-A-PYRENE
1800U	2-CHLORONAPHTHALENE	1800J	INDENO (1,2,3-CD) PYRENE
8900U	2-NITROANILINE	800J	DIBENZO(A,H)ANTHRACENE
1800U	DIMETHYL PHTHALATE	1800J	BENZO(GHI)PERYLENE
1800U	ACENAPHTHYLENE	10	PERCENT MOISTURE
1800U	2,6-DINITROTOLUENE		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26422 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SB-02

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J419

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
360U	PHENOL	1700U	3-NITROANILINE
360U	BIS(2-CHLOROETHYL) ETHER	360U	ACENAPHTHENE
360U	2-CHLOROPHENOL	1700UJ	2,4-DINITROPHENOL
360U	1,3-DICHLOROBENZENE	1700UJ	4-NITROPHENOL
360U	1,4-DICHLOROBENZENE	360U	DIBENZOFURAN
360U	BENZYL ALCOHOL	360U	2,4-DINITROTOLUENE
360U	1,2-DICHLOROBENZENE	360U	DIETHYL PHTHALATE
360U	2-METHYLPHENOL	360U	4-CHLOROPHENYL PHENYL ETHER
360UJ	BIS(2-CHLOROISOPROPYL) ETHER	360U	FLUORENE
360U	(3-AND/OR 4-)METHYLPHENOL	1700U	4-NITROANILINE
360UJ	N-NITROSODI-N-PROPYLAMINE	1700U	2-METHYL-4,6-DINITROPHENOL
360U	HEXACHLOROETHANE	360U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
360UJ	NITROBENZENE	360U	4-BROMOPHENYL PHENYL ETHER
360U	ISOPHORONE	1700U	HEXACHLOROBENZENE (HCB)
360U	2-NITROPHENOL	360U	PENTACHLOROPHENOL
360U	2,4-DIMETHYLPHENOL	360U	PHENANTHRENE
1700U	BENZOIC ACID	360U	ANTHRACENE
360U	BIS(2-CHLOROETHOXY) METHANE	360U	DI-N-BUTYLPHTHALATE
360U	2,4-DICHLOROPHENOL	360U	FLUORANTHENE
360U	1,2,4-TRICHLOROBENZENE	360U	PYRENE
360U	NAPHTHALENE	360U	BENZYL BUTYL PHTHALATE
360U	4-CHLOROANILINE	720U	3,3'-DICHLOROBENZIDINE
360UJ	HEXACHLOROBUTADIENE	360U	BENZO(A)ANTHRACENE
360U	4-CHLORO-3-METHYLPHENOL	360U	CHRYSENE
360U	2-METHYLNAPHTHALENE	360U	BIS(2-ETHYLHEXYL) PHTHALATE
360U	HEXACHLOROCYCLOPENTADIENE (HCCP)	360U	DI-N-OCTYLPHTHALATE
360U	2,4,6-TRICHLOROPHENOL	360UJ	BENZO(B AND/OR K)FLUORANTHENE
1700U	2,4,5-TRICHLOROPHENOL	360U	BENZO-A-PYRENE
360U	2-CHLORONAPHTHALENE	360U	INDENO (1,2,3-CD) PYRENE
1700UJ	2-NITROANILINE	360U	DIBENZO(A,H)ANTHRACENE
360U	DIMETHYL PHTHALATE	360U	BENZO(GHI)PERYLENE
360U	ACENAPHTHYLENE	8	PERCENT MOISTURE
360U	2,6-DINITROTOLUENE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26421 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-02 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J415

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
410U	PHENOL	2000U	3-NITROANILINE
410U	BIS(2-CHLOROETHYL) ETHER	410U	ACENAPHTHENE
410U	2-CHLOROPHENOL	2000UJ	2,4-DINITROPHENOL
410U	1,3-DICHLOROBENZENE	2000U	4-NITROPHENOL
410U	1,4-DICHLOROBENZENE	410U	DIBENZOFURAN
410U	BENZYL ALCOHOL	410U	2,4-DINITROTOLUENE
410U	1,2-DICHLOROBENZENE	410U	DIETHYL PHTHALATE
410U	2-METHYLPHENOL	410U	4-CHLOROPHENYL PHENYL ETHER
410U	BIS(2-CHLOROISOPROPYL) ETHER	410U	FLUORENE
63J	(3-AND/OR 4-)METHYLPHENOL	2000U	4-NITROANILINE
410U	N-NITROSODI-N-PROPYLAMINE	2000U	2-METHYL-4,6-DINITROPHENOL
410U	HEXACHLOROETHANE	410U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
410U	NITROBENZENE	410U	4-BROMOPHENYL PHENYL ETHER
410U	ISOPHORONE	410U	HEXACHLOROBENZENE (HCB)
410U	2-NITROPHENOL	2000U	PENTACHLOROPHENOL
410U	2,4-DIMETHYLPHENOL	410U	PHENANTHRENE
2000UJ	BENZOIC ACID	410U	ANTHRACENE
410U	BIS(2-CHLOROETHOXY) METHANE	410U	DI-N-BUTYLPHTHALATE
410U	2,4-DICHLOROPHENOL	410U	FLUORANTHENE
410U	1,2,4-TRICHLOROBENZENE	410U	PYRENE
410U	NAPHTHALENE	410U	BENZYL BUTYL PHTHALATE
410U	4-CHLOROANILINE	820UJ	3,3'-DICHLOROBENZIDINE
410UJ	HEXACHLOROBUTADIENE	410U	BENZO(A)ANTHRACENE
410U	4-CHLORO-3-METHYLPHENOL	410U	CHRYSENE
410U	2-METHYLNAPHTHALENE	410U	BIS(2-ETHYLHEXYL) PHTHALATE
410UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)	410U	DI-N-OCTYLPHTHALATE
410U	2,4,6-TRICHLOROPHENOL	410U	BENZO(B AND/OR K)FLUORANTHENE
2000U	2,4,5-TRICHLOROPHENOL	410U	BENZO-A-PYRENE
410U	2-CHLORONAPHTHALENE	410U	INDENO (1,2,3-CD) PYRENE
2000U	2-NITROANILINE	410UJ	DIBENZO(A,H)ANTHRACENE
410U	DIMETHYL PHTHALATE	410U	BENZO(GHI)PERYLENE
410U	ACENAPHTHYLENE	19	PERCENT MOISTURE
410U	2,6-DINITROTOLUENE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26419 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SB-03 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J417

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
370U	PHENOL	1800U	3-NITROANILINE
370U	BIS(2-CHLOROETHYL) ETHER	370U	ACENAPHTHENE
370U	2-CHLOROPHENOL	1800UJ	2,4-DINITROPHENOL
370U	1,3-DICHLOROBENZENE	1800U	4-NITROPHENOL
370U	1,4-DICHLOROBENZENE	370U	DIBENZOFURAN
370U	BENZYL ALCOHOL	370U	2,4-DINITROTOLUENE
370U	1,2-DICHLOROBENZENE	370U	DIETHYL PHTHALATE
370U	2-METHYLPHENOL	370U	4-CHLOROPHENYL PHENYL ETHER
370U	BIS(2-CHLOROISOPROPYL) ETHER	370U	FLUORENE
370U	(3-AND/OR 4-)METHYLPHENOL	1800U	4-NITROANILINE
370U	N-NITROSODI-N-PROPYLAMINE	1800U	2-METHYL-4,6-DINITROPHENOL
370U	HEXACHLOROETHANE	370U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
370U	NITROBENZENE	370U	4-BROMOPHENYL PHENYL ETHER
370U	ISOPHORONE	370U	HEXACHLOROBENZENE (HCB)
370U	2-NITROPHENOL	1800U	PENTACHLOROPHENOL
370U	2,4-DIMETHYLPHENOL	370U	PHENANTHRENE
1800UJ	BENZOIC ACID	370U	ANTHRACENE
370U	BIS(2-CHLOROETHOXY) METHANE	370U	DI-N-BUTYLPHTHALATE
370U	2,4-DICHLOROPHENOL	370U	FLUORANTHENE
370U	1,2,4-TRICHLOROBENZENE	370U	PYRENE
370U	NAPHTHALENE	370U	BENZYL BUTYL PHTHALATE
370U	4-CHLOROANILINE	740UJ	3,3'-DICHLOROBENZIDINE
370UJ	HEXACHLOROBUTADIENE	370U	BENZO(A)ANTHRACENE
370U	4-CHLORO-3-METHYLPHENOL	370U	CHRYSENE
370U	2-METHYLNAPHTHALENE	370U	BIS(2-ETHYLHEXYL) PHTHALATE
370UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)	370U	DI-N-OCTYLPHTHALATE
370U	2,4,6-TRICHLOROPHENOL	370U	BENZO(B AND/OR K)FLUORANTHENE
1800U	2,4,5-TRICHLOROPHENOL	370U	BENZO-A-PYRENE
370U	2-CHLORONAPHTHALENE	370U	INDENO (1,2,3-CD) PYRENE
1800U	2-NITROANILINE	370UJ	DIBENZO(A,H)ANTHRACENE
370U	DIMETHYL PHTHALATE	370U	BENZO(GHI)PERYLENE
370U	ACENAPHTHYLENE	11	PERCENT MOISTURE
370U	2,6-DINITROTOLUENE		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26416 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-03 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J412

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
420U	PHENOL	2100U	3-NITROANILINE
420U	BIS(2-CHLOROETHYL) ETHER	420U	ACENAPHTHENE
420U	2-CHLOROPHENOL	2100UJ	2,4-DINITROPHENOL
420U	1,3-DICHLOROBENZENE	2100UJ	4-NITROPHENOL
420U	1,4-DICHLOROBENZENE	420U	DIBENZOFURAN
420U	BENZYL ALCOHOL	420U	2,4-DINITROTOLUENE
420U	1,2-DICHLOROBENZENE	420U	DIETHYL PHTHALATE
420U	2-METHYLPHENOL	420U	4-CHLOROPHENYL PHENYL ETHER
420U	BIS(2-CHLOROISOPROPYL) ETHER	420U	FLUORENE
420U	(3-AND/OR 4-)METHYLPHENOL	2100U	4-NITROANILINE
420U	N-NITROSODI-N-PROPYLAMINE	2100U	2-METHYL-4,6-DINITROPHENOL
420U	HEXACHLOROETHANE	420U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
420U	NITROBENZENE	420U	4-BROMOPHENYL PHENYL ETHER
420U	ISOPHORONE	420U	HEXACHLOROBENZENE (HCB)
420U	2-NITROPHENOL	2100U	PENTACHLOROPHENOL
420U	2,4-DIMETHYLPHENOL	420U	PHENANTHRENE
2100UJ	BENZOIC ACID	420U	ANTHRACENE
420U	BIS(2-CHLOROETHOXY) METHANE	420U	DI-N-BUTYLPHTHALATE
420U	2,4-DICHLOROPHENOL	420U	FLUORANTHENE
420U	1,2,4-TRICHLOROBENZENE	420U	PYRENE
420U	NAPHTHALENE	420U	BENZYL BUTYL PHTHALATE
420UJ	4-CHLOROANILINE	850U	3,3'-DICHLOROBENZIDINE
420UJ	HEXACHLOROBUTADIENE	420U	BENZO(A)ANTHRACENE
420U	4-CHLORO-3-METHYLPHENOL	420U	CHRYSENE
420U	2-METHYLNAPHTHALENE	420U	BIS(2-ETHYLHEXYL) PHTHALATE
420UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)	420U	DI-N-OCTYLPHTHALATE
420U	2,4,6-TRICHLOROPHENOL	420U	BENZO(B AND/OR K)FLUORANTHENE
2100U	2,4,5-TRICHLOROPHENOL	420U	BENZO-A-PYRENE
420U	2-CHLORONAPHTHALENE	420U	INDENO (1,2,3-CD) PYRENE
2100U	2-NITROANILINE	420U	DIBENZO(A,H)ANTHRACENE
420U	DIMETHYL PHTHALATE	420U	BENZO(GHI)PERYLENE
420U	ACENAPHTHYLENE	22	PERCENT MOISTURE
420U	2,6-DINITROTOLUENE		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/12/88

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26418 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-03 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J416

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
680U	PHENOL	3300U	3-NITROANILINE
680U	BIS(2-CHLOROETHYL) ETHER	680U	ACENAPHTHENE
680U	2-CHLOROPHENOL	3300UJ	2,4-DINITROPHENOL
680U	1,3-DICHLOROBENZENE	3300U	4-NITROPHENOL
680U	1,4-DICHLOROBENZENE	680U	DIBENZOFURAN
680U	BENZYL ALCOHOL	680U	2,4-DINITROTOLUENE
680U	1,2-DICHLOROBENZENE	680U	DIETHYL PHTHALATE
680U	2-METHYLPHENOL	680U	4-CHLOROPHENYL PHENYL ETHER
680U	BIS(2-CHLOROISOPROPYL) ETHER	680U	FLUORENE
680U	(3-AND/OR 4-)METHYLPHENOL	3300U	4-NITROANILINE
680U	N-NITROSODI-N-PROPYLAMINE	3300U	2-METHYL-4,6-DINITROPHENOL
680U	HEXACHLOROETHANE	680U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
680U	NITROBENZENE	680U	4-BROMOPHENYL PHENYL ETHER
680U	ISOPHORONE	680U	HEXACHLOROBENZENE (HCB)
680U	2-NITROPHENOL	3300U	PENTACHLOROPHENOL
680U	2,4-DIMETHYLPHENOL	680U	PHENANTHRENE
3300UJ	BENZOIC ACID	680U	ANTHRACENE
680U	BIS(2-CHLOROETHOXY) METHANE	680U	DI-N-BUTYLPHTHALATE
680U	2,4-DICHLOROPHENOL	180J	FLUORANTHENE
680U	1,2,4-TRICHLOROBENZENE	190J	PYRENE
680U	NAPHTHALENE	680U	BENZYL BUTYL PHTHALATE
680U	4-CHLOROANILINE	1400UJ	3,3'-DICHLOROBENZIDINE
680UJ	HEXACHLOROBUTADIENE	680U	BENZO(A)ANTHRACENE
680U	4-CHLORO-3-METHYLPHENOL	680U	CHRYSENE
680U	2-METHYLNAPHTHALENE	6000U	BIS(2-ETHYLHEXYL) PHTHALATE
680UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)	680J	DI-N-OCTYLPHTHALATE
680U	2,4,6-TRICHLOROPHENOL	680U	BENZO(B AND/OR K)FLUORANTHENE
3300U	2,4,5-TRICHLOROPHENOL	680U	BENZO-A-PYRENE
680U	2-CHLORONAPHTHALENE	680U	INDENO (1,2,3-CD) PYRENE
3300U	2-NITROANILINE	680UJ	DIBENZO(A,H)ANTHRACENE
680U	DIMETHYL PHTHALATE	680U	BENZO(GHI)PERYLENE
680U	ACENAPHTHYLENE	3	PERCENT MOISTURE
680U	2,6-DINITROTOLUENE		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26427 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-04 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J420

UG/KG	ANALYTICAL RESULTS
340U	PHENOL
340U	BIS(2-CHLOROETHYL) ETHER
340U	2-CHLOROPHENOL
340U	1,3-DICHLOROBENZENE
340U	1,4-DICHLOROBENZENE
340U	BENZYL ALCOHOL
340U	1,2-DICHLOROBENZENE
340U	2-METHYLPHENOL
340UJ	BIS(2-CHLOROISOPROPYL) ETHER
340U	(3-AND/OR 4-)METHYLPHENOL
340UJ	N-NITROSODI-N-PROPYLAMINE
340U	HEXACHLOROETHANE
340UJ	NITROBENZENE
340U	ISOPHORONE
340U	2-NITROPHENOL
340U	2,4-DIMETHYLPHENOL
250J	BENZOIC ACID
340U	BIS(2-CHLOROETHOXY) METHANE
340U	2,4-DICHLOROPHENOL
340U	1,2,4-TRICHLOROBENZENE
340U	NAPHTHALENE
340U	4-CHLOROANILINE
340UJ	HEXACHLOROBUTADIENE
340U	4-CHLORO-3-METHYLPHENOL
340U	2-METHYLNAPHTHALENE
340U	HEXACHLOROCYCLOPENTADIENE (HCCP)
340U	2,4,6-TRICHLOROPHENOL
1700U	2,4,5-TRICHLOROPHENOL
340U	2-CHLORONAPHTHALENE
1700UJ	2-NITROANILINE
340U	DIMETHYL PHTHALATE
340U	ACENAPHTHYLENE
340U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1700U	3-NITROANILINE
340U	ACENAPHTHENE
1700UJ	2,4-DINITROPHENOL
1700UJ	4-NITROPHENOL
340U	DIBENZOFURAN
340U	2,4-DINITROTOLUENE
340U	DIETHYL PHTHALATE
340U	4-CHLOROPHENYL PHENYL ETHER
340U	FLUORENE
1700U	4-NITROANILINE
1700U	2-METHYL-4,6-DINITROPHENOL
340U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
340U	4-BROMOPHENYL PHENYL ETHER
340U	HEXACHLOROBENZENE (HCB)
1700U	PENTACHLOROPHENOL
340U	PHENANTHRENE
340U	ANTHRACENE
340U	DI-N-BUTYLPHTHALATE
67J	FLUORANTHENE
53J	PYRENE
340U	BENZYL BUTYL PHTHALATE
690U	3,3'-DICHLOROBENZIDINE
340U	BENZO(A)ANTHRACENE
56J	CHRYSENE
5100	BIS(2-ETHYLHEXYL) PHTHALATE
340U	DI-N-OCTYLPHTHALATE
340UJ	BENZO(B AND/OR K)FLUORANTHENE
340U	BENZO-A-PYRENE
340U	INDENO (1,2,3-CD) PYRENE
340U	DIBENZO(A,H)ANTHRACENE
340U	BENZO(GHI)PERYLENE
4	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26424 SAMPLE TYPE: SEDIM
SOURCE: CHAMPION INTERNATION
STATION ID: SD-05 REGION IV QC BLANK

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J426

UG/KG	ANALYTICAL RESULTS
390U	PHENOL
390U	BIS(2-CHLOROETHYL) ETHER
390U	2-CHLOROPHENOL
390U	1,3-DICHLOROBENZENE
390U	1,4-DICHLOROBENZENE
390U	BENZYL ALCOHOL
390U	1,2-DICHLOROBENZENE
390U	2-METHYLPHENOL
390U	BIS(2-CHLOROISOPROPYL) ETHER
390U	(3-AND/OR 4-)METHYLPHENOL
390U	N-NITROSODI-N-PROPYLAMINE
390U	HEXACHLOROETHANE
390U	NITROBENZENE
390U	ISOPHORONE
390U	2-NITROPHENOL
390U	2,4-DIMETHYLPHENOL
1900U	BENZOIC ACID
390U	BIS(2-CHLOROETHOXY) METHANE
390U	2,4-DICHLOROPHENOL
390U	1,2,4-TRICHLOROBENZENE
390U	NAPHTHALENE
390U	4-CHLOROANILINE
390U	HEXACHLOROBUTADIENE
390U	4-CHLORO-3-METHYLPHENOL
390U	2-METHYLNAPHTHALENE
390U	HEXACHLOROCYCLOPENTADIENE (HCCP)
390U	2,4,6-TRICHLOROPHENOL
1900U	2,4,5-TRICHLOROPHENOL
390U	2-CHLORONAPHTHALENE
1900U	2-NITROANILINE
390U	DIMETHYL PHTHALATE
390U	ACENAPHTHYLENE
390U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1900U	3-NITROANILINE
390U	ACENAPHTHENE
1900U	2,4-DINITROPHENOL
1900U	4-NITROPHENOL
390U	DIBENZOFURAN
390U	2,4-DINITROTOLUENE
390U	DIETHYL PHTHALATE
390U	4-CHLOROPHENYL PHENYL ETHER
390U	FLUORENE
1900U	4-NITROANILINE
1900U	2-METHYL-4,6-DINITROPHENOL
390U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
390U	4-BROMOPHENYL PHENYL ETHER
390U	HEXACHLOROBENZENE (HCB)
1900U	PENTACHLOROPHENOL
51J	PHENANTHRENE
390U	ANTHRACENE
390U	DI-N-BUTYLPHTHALATE
390U	FLUORANTHENE
390U	PYRENE
390U	BENZYL BUTYL PHTHALATE
780U	3,3'-DICHLOROBENZIDINE
390U	BENZO(A)ANTHRACENE
390U	CHRYSENE
180J	BIS(2-ETHYLHEXYL) PHTHALATE
390U	DI-N-OCTYLPHTHALATE
390U	BENZO(B AND/OR K)FLUORANTHENE
390U	BENZO-A-PYRENE
390U	INDENO (1,2,3-CD) PYRENE
390U	DIBENZO(A,H)ANTHRACENE
390U	BENZO(GHI)PERYLENE
15	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES

*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26417 SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION	CITY: ORANGEBURG ST: SC
STATION ID: CS-02	COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:	D. NO.: J414 MD NO:

RESULTS	UNITS	COMPOUND
400JN	UG/KG	CARBAZOLE
40000J	UG/KG	13 UNIDENTIFIED COMPOUNDS
3000JN	UG/KG	BENZOFLUORANTHENE (NOT B OR K)

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26421 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.: D. NO.: J415 MD NO:

RESULTS	UNITS	COMPOUND
1000JN	UG/KG	BROMOHEXANE
20000J	UG/KG	11 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

*** ***
** PROJECT NO. 88-373 SAMPLE NO. 26416 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SD-03 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE.NO.: 9702 SAS NO.: D. NO.: J412 MD NO: **
** **
*** ***

RESULTS	UNITS	COMPOUND	RESULTS	UNITS	COMPOUND
600JN	UG/KG	BROMOHEXANE	500J	UG/KG	1 UNIDENTIFIED COMPOUND

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26418 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-03
CASE.NO.: 9702 SAS NO.:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NO.: J416 MD NO:

RESULTS	UNITS	COMPOUND
N	UG/KG	PETROLEUM PRODUCT
10000J	UG/KG	8 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26427 SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: A SPAUGH	
SOURCE: CHAMPION INTERNATION	CITY: ORANGEBURG	ST: SC
STATION ID: SS-04	COLLECTION START: 06/02/88	STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:	D. NO.: J420	MD NO:

RESULTS	UNITS	COMPOUND
800JN	UG/KG	BROMOHEXANE
20000J	UG/KG	17 UNIDENTIFIED COMPOUNDS
10000JN	UG/KG	PENTACOSANE

FOOTNOTES
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*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26412 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SB-01
CASE NUMBER: 9702 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NUMBER: J411

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
9.4U	ALPHA-BHC	94U	METHOXYCHLOR
9.4U	BETA-BHC	19U	ENDRIN KETONE
9.4U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
9.4UR	GAMMA-BHC (LINDANE)	94U	GAMMA-CHLORDANE /2
9.4U	HEPTACHLOR	94U	ALPHA-CHLORDANE /2
9.4U	ALDRIN	190U	TOXAPHENE
9.4U	HEPTACHLOR EPOXIDE	94U	PCB-1016 (AROCLOR 1016)
9.4U	ENDOSULFAN I (ALPHA)	94U	PCB-1221 (AROCLOR 1221)
19U	DIELDRIN	94U	PCB-1232 (AROCLOR 1232)
19U	4,4'-DDE (P,P'-DDE)	94U	PCB-1242 (AROCLOR 1242)
19U	ENDRIN	94U	PCB-1248 (AROCLOR 1248)
19U	ENDOSULFAN II (BETA)	190U	PCB-1254 (AROCLOR 1254)
19U	4,4'-DDD (P,P'-DDD)	190U	PCB-1260 (AROCLOR 1260)
19U	ENDOSULFAN SULFATE	15	PERCENT MOISTURE
19U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26414 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-01 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J408

UG/KG	ANALYTICAL RESULTS
9.8U	ALPHA-BHC
9.8U	BETA-BHC
9.8U	DELTA-BHC
9.8UR	GAMMA-BHC (LINDANE)
9.8U	HEPTACHLOR
9.8U	ALDRIN
9.8U	HEPTACHLOR EPOXIDE
9.8U	ENDOSULFAN I (ALPHA)
20U	DIELDRIN
20U	4,4'-DDE (P,P'-DDE)
20U	ENDRIN
20U	ENDOSULFAN II (BETA)
20U	4,4'-DDD (P,P'-DDD)
20U	ENDOSULFAN SULFATE
20U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
98U	METHOXYCHLOR
20U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
98U	GAMMA-CHLORDANE /2
98U	ALPHA-CHLORDANE /2
200U	TOXAPHENE
98U	PCB-1016 (AROCLOR 1016)
98U	PCB-1221 (AROCLOR 1221)
98U	PCB-1232 (AROCLOR 1232)
98U	PCB-1242 (AROCLOR 1242)
98U	PCB-1248 (AROCLOR 1248)
200U	PCB-1254 (AROCLOR 1254)
200U	PCB-1260 (AROCLOR 1260)
18	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26411 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-01
CASE NUMBER: 9702 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NUMBER: J409

UG/KG	ANALYTICAL RESULTS
8.2U	ALPHA-BHC
8.2U	BETA-BHC
8.2U	DELTA-BHC
8.2UR	GAMMA-BHC (LINDANE)
8.2U	HEPTACHLOR
8.2U	ALDRIN
8.2U	HEPTACHLOR EPOXIDE
8.2U	ENDOSULFAN I (ALPHA)
16U	DIELDRIN
16U	4,4'-DDE (P,P'-DDE)
16U	ENDRIN
16U	ENDOSULFAN II (BETA)
16U	4,4'-DDD (P,P'-DDD)
16U	ENDOSULFAN SULFATE
16U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
82U	METHOXYCHLOR
16U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
82U	GAMMA-CHLORDANE /2
82U	ALPHA-CHLORDANE /2
160U	TOXAPHENE
82U	PCB-1016 (AROCLOR 1016)
82U	PCB-1221 (AROCLOR 1221)
82U	PCB-1232 (AROCLOR 1232)
82U	PCB-1242 (AROCLOR 1242)
82U	PCB-1248 (AROCLOR 1248)
160U	PCB-1254 (AROCLOR 1254)
160U	PCB-1260 (AROCLOR 1260)
2	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26417 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: CS-02
CASE NUMBER: 9702 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NUMBER: J414

UG/KG	ANALYTICAL RESULTS
18U	ALPHA-BHC
18U	BETA-BHC
18U	DELTA-BHC
18UR	GAMMA-BHC (LINDANE)
18U	HEPTACHLOR
18U	ALDRIN
18U	HEPTACHLOR EPOXIDE
18U	ENDOSULFAN I (ALPHA)
72	DIELDRIN
36U	4,4'-DDE (P,P'-DDE)
36U	ENDRIN
36U	ENDOSULFAN II (BETA)
36U	4,4'-DDD (P,P'-DDD)
36U	ENDOSULFAN SULFATE
36U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
180U	METHOXYCHLOR
36U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
180U	GAMMA-CHLORDANE /2
180U	ALPHA-CHLORDANE /2
360U	TOXAPHENE
180U	PCB-1016 (AROCLOR 1016)
180U	PCB-1221 (AROCLOR 1221)
180U	PCB-1232 (AROCLOR 1232)
180U	PCB-1242 (AROCLOR 1242)
180U	PCB-1248 (AROCLOR 1248)
360U	PCB-1254 (AROCLOR 1254)
360U	PCB-1260 (AROCLOR 1260)
10	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26422 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SB-02
CASE NUMBER: 9702 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NUMBER: J419

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
8.7U	ALPHA-BHC	87U	METHOXYCHLOR
8.7U	BETA-BHC	17U	ENDRIN KETONE
8.7U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
8.7UR	GAMMA-BHC (LINDANE)	87U	GAMMA-CHLORDANE /2
8.7U	HEPTACHLOR	87U	ALPHA-CHLORDANE /2
8.7U	ALDRIN	170U	TOXAPHENE
8.7U	HEPTACHLOR EPOXIDE	87U	PCB-1016 (AROCLOR 1016)
8.7U	ENDOSULFAN I (ALPHA)	87U	PCB-1221 (AROCLOR 1221)
17U	DIELDRIN	87U	PCB-1232 (AROCLOR 1232)
17U	4,4'-DDE (P,P'-DDE)	87U	PCB-1242 (AROCLOR 1242)
17U	ENDRIN	87U	PCB-1248 (AROCLOR 1248)
17U	ENDOSULFAN II (BETA)	170U	PCB-1254 (AROCLOR 1254)
17U	4,4'-DDD (P,P'-DDD)	170U	PCB-1260 (AROCLOR 1260)
17U	ENDOSULFAN SULFATE	8	PERCENT MOISTURE
17U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

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** PROJECT NO. 88-373 SAMPLE NO. 26421 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SD-02 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J415 **

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UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
9.9U	ALPHA-BHC	99U	METHOXYCHLOR
9.9U	BETA-BHC	20U	ENDRIN KETONE
9.9U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
9.9UR	GAMMA-BHC (LINDANE)	99U	GAMMA-CHLORDANE /2
9.9U	HEPTACHLOR	99U	ALPHA-CHLORDANE /2
9.9U	ALDRIN	200U	TOXAPHENE
9.9U	HEPTACHLOR EPOXIDE	99U	PCB-1016 (AROCLOR 1016)
9.9U	ENDOSULFAN I (ALPHA)	99U	PCB-1221 (AROCLOR 1221)
20U	DIELDRIN	99U	PCB-1232 (AROCLOR 1232)
20U	4,4'-DDE (P,P'-DDE)	99U	PCB-1242 (AROCLOR 1242)
20U	ENDRIN	99U	PCB-1248 (AROCLOR 1248)
20U	ENDOSULFAN II (BETA)	200U	PCB-1254 (AROCLOR 1254)
20U	4,4'-DDD (P,P'-DDD)	200U	PCB-1260 (AROCLOR 1260)
20U	ENDOSULFAN SULFATE	19	PERCENT MOISTURE
20U	4,4'-DDT (P,P'-DDT)		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26419 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SB-03
CASE NUMBER: 9702 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NUMBER: J417

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
9.0U	ALPHA-BHC	90U	METHOXYCHLOR
9.0U	BETA-BHC	18U	ENDRIN KETONE
9.0U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
9.0UR	GAMMA-BHC (LINDANE)	90U	GAMMA-CHLORDANE /2
9.0U	HEPTACHLOR	90U	ALPHA-CHLORDANE /2
9.0U	ALDRIN	180U	TOXAPHENE
9.0U	HEPTACHLOR EPOXIDE	90U	PCB-1016 (AROCLOR 1016)
9.0U	ENDOSULFAN I (ALPHA)	90U	PCB-1221 (AROCLOR 1221)
18U	DIELDRIN	90U	PCB-1232 (AROCLOR 1232)
18U	4,4'-DDE (P,P'-DDE)	90U	PCB-1242 (AROCLOR 1242)
18U	ENDRIN	90U	PCB-1248 (AROCLOR 1248)
18U	ENDOSULFAN II (BETA)	180U	PCB-1254 (AROCLOR 1254)
18U	4,4'-DDD (P,P'-DDD)	180U	PCB-1260 (AROCLOR 1260)
18U	ENDOSULFAN SULFATE	11	PERCENT MOISTURE
18U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26416   SAMPLE TYPE: SEDIM   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SD-03   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE NUMBER: 9702   SAS NUMBER: D. NUMBER: J412

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
10U	ALPHA-BHC	100U	METHOXYCHLOR
10U	BETA-BHC	20U	ENDRIN KETONE
10U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
10UR	GAMMA-BHC (LINDANE)	100U	GAMMA-CHLORDANE /2
10U	HEPTACHLOR	100U	ALPHA-CHLORDANE /2
10U	ALDRIN	200U	TOXAPHENE
10U	HEPTACHLOR EPOXIDE	100U	PCB-1016 (AROCLOR 1016)
10U	ENDOSULFAN I (ALPHA)	100U	PCB-1221 (AROCLOR 1221)
20U	DIELDRIN	100U	PCB-1232 (AROCLOR 1232)
20U	4,4'-DDE (P,P'-DDE)	100U	PCB-1242 (AROCLOR 1242)
20U	ENDRIN	100U	PCB-1248 (AROCLOR 1248)
20U	ENDOSULFAN II (BETA)	200U	PCB-1254 (AROCLOR 1254)
20U	4,4'-DDD (P,P'-DDD)	200U	PCB-1260 (AROCLOR 1260)
20U	ENDOSULFAN SULFATE	22	PERCENT MOISTURE
20U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26418 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J416

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
8.2U	ALPHA-BHC	82U	METHOXYCHLOR
8.2U	BETA-BHC	16U	ENDRIN KETONE
8.2U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
8.2UR	GAMMA-BHC (LINDANE)	82U	GAMMA-CHLORDANE /2
8.2U	HEPTACHLOR	82U	ALPHA-CHLORDANE /2
8.2U	ALDRIN	160U	TOXAPHENE
8.2U	HEPTACHLOR EPOXIDE	82U	PCB-1016 (AROCLOR 1016)
8.2U	ENDOSULFAN I (ALPHA)	82U	PCB-1221 (AROCLOR 1221)
16U	DIELDRIN	82U	PCB-1232 (AROCLOR 1232)
16U	4,4'-DDE (P,P'-DDE)	82U	PCB-1242 (AROCLOR 1242)
16U	ENDRIN	82U	PCB-1248 (AROCLOR 1248)
16U	ENDOSULFAN II (BETA)	160U	PCB-1254 (AROCLOR 1254)
16U	4,4'-DDD (P,P'-DDD)	160U	PCB-1260 (AROCLOR 1260)
16U	ENDOSULFAN SULFATE	3	PERCENT MOISTURE
16U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26427   SAMPLE TYPE: SOIL   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SS-04   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE NUMBER: 9702   SAS NUMBER: D. NUMBER: J420

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
8.3U	ALPHA-BHC	83U	METHOXYCHLOR
8.3U	BETA-BHC	17U	ENDRIN KETONE
8.3U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
8.3UR	GAMMA-BHC (LINDANE)	83U	GAMMA-CHLORDANE /2
8.3U	HEPTACHLOR	83U	ALPHA-CHLORDANE /2
8.3U	ALDRIN	170U	TOXAPHENE
8.3U	HEPTACHLOR EPOXIDE	83U	PCB-1016 (AROCLOR 1016)
8.3U	ENDOSULFAN I (ALPHA)	83U	PCB-1221 (AROCLOR 1221)
17U	DIELDRIN	83U	PCB-1232 (AROCLOR 1232)
17U	4,4'-DDE (P,P'-DDE)	83U	PCB-1242 (AROCLOR 1242)
17U	ENDRIN	83U	PCB-1248 (AROCLOR 1248)
17U	ENDOSULFAN II (BETA)	640	PCB-1254 (AROCLOR 1254)
17U	4,4'-DDD (P,P'-DDD)	170U	PCB-1260 (AROCLOR 1260)
17U	ENDOSULFAN SULFATE	4	PERCENT MOISTURE
17U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PESTICIDES/PCB'S DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26424 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-05 REGION IV QC BLANK COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J426

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
9.4U	ALPHA-BHC	94U	METHOXYCHLOR
9.4U	BETA-BHC	19U	ENDRIN KETONE
9.4U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
9.4U	GAMMA-BHC (LINDANE)	94U	GAMMA-CHLORDANE /2
9.4U	HEPTACHLOR	94U	ALPHA-CHLORDANE /2
9.4U	ALDRIN	190U	TOXAPHENE
9.4U	HEPTACHLOR EPOXIDE	94U	PCB-1016 (AROCLOR 1016)
9.4U	ENDOSULFAN I (ALPHA)	94U	PCB-1221 (AROCLOR 1221)
19U	DIELDRIN	94U	PCB-1232 (AROCLOR 1232)
19U	4,4'-DDE (P,P'-DDE)	94U	PCB-1242 (AROCLOR 1242)
19U	ENDRIN	94U	PCB-1248 (AROCLOR 1248)
19U	ENDOSULFAN II (BETA)	190U	PCB-1254 (AROCLOR 1254)
19U	4,4'-DDD (P,P'-DDD)	190U	PCB-1260 (AROCLOR 1260)
19U	ENDOSULFAN SULFATE	15	PERCENT MOISTURE
19U	4,4'-DDT (P,P'-DDT)		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26413 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-01 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J410

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
5UJ	METHYLENE CHLORIDE	5UJ	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5UJ	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	8U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26420 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J418

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
5UJ	METHYLENE CHLORIDE	5UJ	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5UJ	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	20U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26415   SAMPLE TYPE: SURFACEWA   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SW-03   COLLECTION START: 06/02/88   STOP: 00/00/00

CASE NO.: 9702   SAS NO.:   D. NO.: J413

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
5UJ	METHYLENE CHLORIDE	5UJ	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5UJ	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	20U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES   *J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN   *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26413 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-01 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J410

UG/L	ANALYTICAL RESULTS
20U	PHENOL
20U	BIS(2-CHLOROETHYL) ETHER
20U	2-CHLOROPHENOL
20U	1,3-DICHLOROBENZENE
20U	1,4-DICHLOROBENZENE
20U	BENZYL ALCOHOL
20U	1,2-DICHLOROBENZENE
20U	2-METHYLPHENOL
20UJ	BIS(2-CHLOROISOPROPYL) ETHER
20U	(3-AND/OR 4-)METHYLPHENOL
20UJ	N-NITROSODI-N-PROPYLAMINE
20U	HEXACHLOROETHANE
20UJ	NITROBENZENE
20UJ	ISOPHORONE
20U	2-NITROPHENOL
20UJ	2,4-DIMETHYLPHENOL
100UJ	BENZOIC ACID
20UJ	BIS(2-CHLOROETHOXY) METHANE
20U	2,4-DICHLOROPHENOL
20U	1,2,4-TRICHLOROBENZENE
20U	NAPHTHALENE
20UJ	4-CHLOROANILINE
20U	HEXACHLOROBUTADIENE
20U	4-CHLORO-3-METHYLPHENOL
20U	2-METHYLNAPHTHALENE
20U	HEXACHLOROCYCLOPENTADIENE (HCCP)
20U	2,4,6-TRICHLOROPHENOL
100U	2,4,5-TRICHLOROPHENOL
20U	2-CHLORONAPHTHALENE
100UJ	2-NITROANILINE
20U	DIMETHYL PHTHALATE
20U	ACENAPHTHYLENE
20U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
100U	3-NITROANILINE
20U	ACENAPHTHENE
100UJ	2,4-DINITROPHENOL
100UJ	4-NITROPHENOL
20U	DIBENZOFURAN
20U	2,4-DINITROTOLUENE
20U	DIETHYL PHTHALATE
20U	4-CHLOROPHENYL PHENYL ETHER
20U	FLUORENE
100U	4-NITROANILINE
100U	2-METHYL-4,6-DINITROPHENOL
20U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20U	4-BROMOPHENYL PHENYL ETHER
20UJ	HEXACHLOROBENZENE (HCB)
100U	PENTACHLOROPHENOL
20U	PHENANTHRENE
20U	ANTHRACENE
20UJ	DI-N-BUTYLPHTHALATE
20U	FLUORANTHENE
20U	PYRENE
20U	BENZYL BUTYL PHTHALATE
40U	3,3'-DICHLOROBENZIDINE
20U	BENZO(A)ANTHRACENE
20U	CHRYSENE
20UJ	BIS(2-ETHYLHEXYL) PHTHALATE
20U	DI-N-OCTYLPHTHALATE
20U	BENZO(B AND/OR K)FLUORANTHENE
20U	BENZO-A-PYRENE
20U	INDENO (1,2,3-CD) PYRENE
20UJ	DIBENZO(A,H)ANTHRACENE
20U	BENZO(GHI)PERYLENE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26420 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J418

UG/L	ANALYTICAL RESULTS
20U	PHENOL
20U	BIS(2-CHLOROETHYL) ETHER
20U	2-CHLOROPHENOL
20U	1,3-DICHLOROBENZENE
20U	1,4-DICHLOROBENZENE
20U	BENZYL ALCOHOL
20U	1,2-DICHLOROBENZENE
20U	2-METHYLPHENOL
20UJ	BIS(2-CHLOROISOPROPYL) ETHER
20U	(3-AND/OR 4-)METHYLPHENOL
20UJ	N-NITROSODI-N-PROPYLAMINE
20U	HEXACHLOROETHANE
20UJ	NITROBENZENE
20UJ	ISOPHORONE
20U	2-NITROPHENOL
20UJ	2,4-DIMETHYLPHENOL
100UJ	BENZOIC ACID
20UJ	BIS(2-CHLOROETHOXY) METHANE
20U	2,4-DICHLOROPHENOL
20U	1,2,4-TRICHLOROBENZENE
20U	NAPHTHALENE
20UJ	4-CHLOROANILINE
20U	HEXACHLOROBUTADIENE
20U	4-CHLORO-3-METHYLPHENOL
20U	2-METHYLNAPHTHALENE
20U	HEXACHLOROCYCLOPENTADIENE (HCCP)
20U	2,4,6-TRICHLOROPHENOL
100U	2,4,5-TRICHLOROPHENOL
20U	2-CHLORONAPHTHALENE
100UJ	2-NITROANILINE
20U	DIMETHYL PHTHALATE
20U	ACENAPHTHYLENE
20U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
100U	3-NITROANILINE
20U	ACENAPHTHENE
100UJ	2,4-DINITROPHENOL
100UJ	4-NITROPHENOL
20U	DIBENZOFURAN
20U	2,4-DINITROTOLUENE
20U	DIETHYL PHTHALATE
20U	4-CHLOROPHENYL PHENYL ETHER
20U	FLUORENE
100U	4-NITROANILINE
100U	2-METHYL-4,6-DINITROPHENOL
3J	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20U	4-BROMOPHENYL PHENYL ETHER
20UJ	HEXACHLOROBENZENE (HCB)
100U	PENTACHLOROPHENOL
20U	PHENANTHRENE
20U	ANTHRACENE
3J	DI-N-BUTYLPHTHALATE
20U	FLUORANTHENE
20U	PYRENE
20U	BENZYL BUTYL PHTHALATE
40U	3,3'-DICHLOROBENZIDINE
20U	BENZO(A)ANTHRACENE
20U	CHRYSENE
20UJ	BIS(2-ETHYLHEXYL) PHTHALATE
20U	DI-N-OCTYLPHTHALATE
20U	BENZO(B AND/OR K)FLUORANTHENE
20U	BENZO-A-PYRENE
20U	INDENO (1,2,3-CD) PYRENE
20UJ	DIBENZO(A,H)ANTHRACENE
20U	BENZO(GHI)PERYLENE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

EXTRACTABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26415 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-03 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J413

UG/L	ANALYTICAL RESULTS
20U	PHENOL
20U	BIS(2-CHLOROETHYL) ETHER
20U	2-CHLOROPHENOL
20U	1,3-DICHLOROBENZENE
20U	1,4-DICHLOROBENZENE
20U	BENZYL ALCOHOL
20U	1,2-DICHLOROBENZENE
20U	2-METHYLPHENOL
20UJ	BIS(2-CHLOROISOPROPYL) ETHER
20U	(3-AND/OR 4-)METHYLPHENOL
20UJ	N-NITROSODI-N-PROPYLAMINE
20U	HEXACHLOROETHANE
20UJ	NITROBENZENE
20UJ	ISOPHORONE
20U	2-NITROPHENOL
20UJ	2,4-DIMETHYLPHENOL
100UJ	BENZOIC ACID
20UJ	BIS(2-CHLOROETHOXY) METHANE
20U	2,4-DICHLOROPHENOL
20U	1,2,4-TRICHLOROBENZENE
20U	NAPHTHALENE
20UJ	4-CHLOROANILINE
20U	HEXACHLOROBUTADIENE
20U	4-CHLORO-3-METHYLPHENOL
20U	2-METHYLNAPHTHALENE
20U	HEXACHLOROCYCLOPENTADIENE (HCCP)
20U	2,4,6-TRICHLOROPHENOL
100U	2,4,5-TRICHLOROPHENOL
20U	2-CHLORONAPHTHALENE
100UJ	2-NITROANILINE
20U	DIMETHYL PHTHALATE
20U	ACENAPHTHYLENE
20U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
100U	3-NITROANILINE
20U	ACENAPHTHENE
100UJ	2,4-DINITROPHENOL
100UJ	4-NITROPHENOL
20U	DIBENZOFURAN
20U	2,4-DINITROTOLUENE
20U	DIETHYL PHTHALATE
20U	4-CHLOROPHENYL PHENYL ETHER
20U	FLUORENE
100U	4-NITROANILINE
100U	2-METHYL-4,6-DINITROPHENOL
20U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20U	4-BROMOPHENYL PHENYL ETHER
20UJ	HEXACHLOROBENZENE (HCB)
100U	PENTACHLOROPHENOL
20U	PHENANTHRENE
20U	ANTHRACENE
20UJ	DI-N-BUTYLPHTHALATE
20U	FLUORANTHENE
20U	PYRENE
20U	BENZYL BUTYL PHTHALATE
40U	3,3'-DICHLOROBENZIDINE
20U	BENZO(A)ANTHRACENE
20U	CHRYSENE
20UJ	BIS(2-ETHYLHEXYL) PHTHALATE
20U	DI-N-OCTYLPHTHALATE
20U	BENZO(B AND/OR K)FLUORANTHENE
20U	BENZO-A-PYRENE
20U	INDENO (1,2,3-CD) PYRENE
20UJ	DIBENZO(A,H)ANTHRACENE
20U	BENZO(GHI)PERYLENE

REMARKS

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FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26413 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-01 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J410

UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC
0.050U	BETA-BHC
0.050U	DELTA-BHC
0.050UR	GAMMA-BHC (LINDANE)
0.050U	HEPTACHLOR
0.050U	ALDRIN
0.050U	HEPTACHLOR EPOXIDE
0.050U	ENDOSULFAN I (ALPHA)
0.10U	DIELDRIN
0.10U	4,4'-DDE (P,P'-DDE)
0.10U	ENDRIN
0.10U	ENDOSULFAN II (BETA)
0.10U	4,4'-DDD (P,P'-DDD)
0.10U	ENDOSULFAN SULFATE
0.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
0.50U	METHOXYCHLOR
0.10U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
0.50U	GAMMA-CHLORDANE /2
0.50U	ALPHA-CHLORDANE /2
1.0U	TOXAPHENE
0.50U	PCB-1016 (AROCLOR 1016)
0.50U	PCB-1221 (AROCLOR 1221)
0.50U	PCB-1232 (AROCLOR 1232)
0.50U	PCB-1242 (AROCLOR 1242)
0.50U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS

REMARKS

FOOTNOTES
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*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26420 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J418

UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC
0.050U	BETA-BHC
0.050U	DELTA-BHC
0.050UR	GAMMA-BHC (LINDANE)
0.050U	HEPTACHLOR
0.050U	ALDRIN
0.050U	HEPTACHLOR EPOXIDE
0.050U	ENDOSULFAN I (ALPHA)
0.10U	DIELDRIN
0.10U	4,4'-DDE (P,P'-DDE)
0.10U	ENDRIN
0.10U	ENDOSULFAN II (BETA)
0.10U	4,4'-DDD (P,P'-DDD)
0.10U	ENDOSULFAN SULFATE
0.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
0.50U	METHOXYCHLOR
0.10U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
0.50U	GAMMA-CHLORDANE /2
0.50U	ALPHA-CHLORDANE /2
1.0U	TOXAPHENE
0.50U	PCB-1016 (AROCLOR 1016)
0.50U	PCB-1221 (AROCLOR 1221)
0.50U	PCB-1232 (AROCLOR 1232)
0.50U	PCB-1242 (AROCLOR 1242)
0.50U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26415 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J413

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC	0.50U	METHOXYCHLOR
0.050U	BETA-BHC	0.10U	ENDRIN KETONE
0.050U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
0.050UR	GAMMA-BHC (LINDANE)	0.50U	GAMMA-CHLORDANE /2
0.050U	HEPTACHLOR	0.50U	ALPHA-CHLORDANE /2
0.050U	ALDRIN	1.0U	TOXAPHENE
0.050U	HEPTACHLOR EPOXIDE	0.50U	PCB-1016 (AROCLOR 1016)
0.050U	ENDOSULFAN I (ALPHA)	0.50U	PCB-1221 (AROCLOR 1221)
0.10U	DIELDRIN	0.50U	PCB-1232 (AROCLOR 1232)
0.10U	4,4'-DDE (P,P'-DDE)	0.50U	PCB-1242 (AROCLOR 1242)
0.10U	ENDRIN	0.50U	PCB-1248 (AROCLOR 1248)
0.10U	ENDOSULFAN II (BETA)	1.0U	PCB-1254 (AROCLOR 1254)
0.10U	4,4'-DDD (P,P'-DDD)	1.0U	PCB-1260 (AROCLOR 1260)
0.10U	ENDOSULFAN SULFATE		
0.10U	4,4'-DDT (P,P'-DDT)		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26450 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-01 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J305

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
170UJ	ALUMINUM	26	MANGANESE
40UJ	ANTIMONY	0.2U	MERCURY
3U	ARSENIC	40U	NICKEL
30	BARIUM	2400	POTASSIUM
2U	BERYLLIUM	3U	SELENIUM
4U	CADMIUM	6U	SILVER
23000	CALCIUM	8900	SODIUM
9U	CHROMIUM	3U	THALLIUM
20U	COBALT	NA	TIN
5U	COPPER	8U	VANADIUM
1000J	IRON	30UJ	ZINC
2U	LEAD		
1800	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26457 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J313

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
5300	ALUMINUM	130	MANGANESE
40U	ANTIMONY	0.2U	MERCURY
7JN	ARSENIC	40U	NICKEL
190	BARIUM	96000	POTASSIUM
2U	BERYLLIUM	3U	SELENIUM
4U	CADMIUM	6U	SILVER
30000	CALCIUM	440000	SODIUM
9U	CHROMIUM	3U	THALLIUM
14U	COBALT	NA	TIN
5U	COPPER	22	VANADIUM
2900J	IRON	30UJ	ZINC
10U	LEAD		
3000	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

METALS DATA REPORT 07/20/88

PROJECT NO. 88-373 SAMPLE NO. 26452 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J308

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
100UJ	ALUMINUM	26	MANGANESE
40U	ANTIMONY	0.2U	MERCURY
3U	ARSENIC	40U	NICKEL
30	BARIUM	2700	POTASSIUM
2U	BERYLLIUM	3U	SELENIUM
4U	CADMIUM	6U	SILVER
23000	CALCIUM	8600	SODIUM
9U	CHROMIUM	3U	THALLIUM
13U	COBALT	NA	TIN
5U	COPPER	8U	VANADIUM
950J	IRON	20U	ZINC
3UJ	LEAD		
2000	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26449 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SB-01
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER:
MD NUMBER: J306

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
13000	ALUMINUM	0.79U	MANGANESE
8.2UR	ANTIMONY	0.12U	MERCURY
9.8JN	ARSENIC	8U	NICKEL
10	BARIUM	350U	POTASSIUM
0.42U	BERYLLIUM	0.7UR	SELENIUM
0.72U	CADMIUM	1.3U	SILVER
420	CALCIUM	30U	SODIUM
16	CHROMIUM	0.7UJ	THALLIUM
3.1U	COBALT	NA	TIN
1.1UJ	COPPER	41	VANADIUM
17000	IRON	8UJ	ZINC
6.5J	LEAD	14	PERCENT MOISTURE
140J	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

** PROJECT NO. 88-373 SAMPLE NO. 26451 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SD-01 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J303 **

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
380	ALUMINUM	3UJ	MANGANESE
9UR	ANTIMONY	0.13U	MERCURY
0.76UR	ARSENIC	8.7U	NICKEL
3.3U	BARIUM	380U	POTASSIUM
1UJ	BERYLLIUM	2UJ	SELENIUM
0.78U	CADMIUM	1.4U	SILVER
170UJ	CALCIUM	30U	SODIUM
2.7	CHROMIUM	0.76UJ	THALLIUM
3.4U	COBALT	NA	TIN
11	COPPER	1.9U	VANADIUM
460	IRON	20UJ	ZINC
1.6J	LEAD	21	PERCENT MOISTURE
50U	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26448   SAMPLE TYPE: SOIL   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SS-01   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE NUMBER: 9702   SAS NUMBER: MD NUMBER: J304

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
2700	ALUMINUM	43J	MANGANESE
7.2UR	ANTIMONY	0.1U	MERCURY
0.81JN	ARSENIC	7U	NICKEL
30	BARIUM	310U	POTASSIUM
0.37U	BERYLLIUM	0.61UR	SELENIUM
0.63U	CADMIUM	1.1U	SILVER
720	CALCIUM	30U	SODIUM
4.7	CHROMIUM	0.61UJ	THALLIUM
2.7U	COBALT	NA	TIN
1UJ	COPPER	7.9	VANADIUM
2700	IRON	20UJ	ZINC
13J	LEAD	01	PERCENT MOISTURE
120J	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES   *J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26454 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: CS-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J309

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
4200	ALUMINUM	81	MANGANESE
7.2UR	ANTIMONY	0.1U	MERCURY
6.7JN	ARSENIC	7U	NICKEL
160	BARIUM	310U	POTASSIUM
0.37U	BERYLLIUM	1UJ	SELENIUM
2.6	CADMIUM	1.1U	SILVER
1400	CALCIUM	40UJ	SODIUM
36	CHROMIUM	0.61UJ	THALLIUM
2.7U	COBALT	NA	TIN
6.2J	COPPER	16	VANADIUM
11000	IRON	240J	ZINC
55J	LEAD	02	PERCENT MOISTURE
260J	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26459 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SB-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J314

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
5600	ALUMINUM	0.74UJ	MANGANESE
7.7UR	ANTIMONY	0.11U	MERCURY
6.7JN	ARSENIC	7.5U	NICKEL
8.7	BARIUM	330U	POTASSIUM
0.39U	BERYLLIUM	2UJ	SELENIUM
0.67U	CADMIUM	1.2U	SILVER
50UJ	CALCIUM	70UJ	SODIUM
20U	CHROMIUM	0.65UJ	THALLIUM
2.9U	COBALT	NA	TIN
1UJ	COPPER	16	VANADIUM
6000	IRON	7UJ	ZINC
2.9J	LEAD	08	PERCENT MOISTURE
40U	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26458 SAMPLE TYPE: SEDIM
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SD-02
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER:
MD NUMBER: J310

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
820	ALUMINUM	10	MANGANESE
9.7UR	ANTIMONY	0.14U	MERCURY
2UJ	ARSENIC	9.5U	NICKEL
19	BARIUM	410U	POTASSIUM
0.49U	BERYLLIUM	0.82UR	SELENIUM
1UJ	CADMIUM	1.5U	SILVER
350UJ	CALCIUM	320UJ	SODIUM
2.4U	CHROMIUM	0.82UJ	THALLIUM
3.7U	COBALT	NA	TIN
1.3U	COPPER	3.7	VANADIUM
1200	IRON	20UJ	ZINC
2.3J	LEAD	27	PERCENT MOISTURE
64	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26456 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SB-03
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER:
MD NUMBER: J312

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
6900	ALUMINUM	3UJ	MANGANESE
8UR	ANTIMONY	0.11U	MERCURY
1.6JN	ARSENIC	7.8U	NICKEL
9.6	BARIUM	340U	POTASSIUM
0.4U	BERYLLIUM	0.67UR	SELENIUM
0.7U	CADMIUM	1.2U	SILVER
210UJ	CALCIUM	50UJ	SODIUM
8.2	CHROMIUM	0.67UJ	THALLIUM
3U	COBALT	NA	TIN
1.1UJ	COPPER	19	VANADIUM
5500	IRON	6UJ	ZINC
3.7J	LEAD	11	PERCENT MOISTURE
78	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26453   SAMPLE TYPE: SEDIM   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SD-03   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE NUMBER: 9702   SAS NUMBER: MD NUMBER: J307

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
450	ALUMINUM	2UJ	MANGANESE
9.3UR	ANTIMONY	0.13U	MERCURY
0.78UR	ARSENIC	9U	NICKEL
3.4U	BARIUM	390U	POTASSIUM
1UJ	BERYLLIUM	0.78UR	SELENIUM
0.81U	CADMIUM	1.4U	SILVER
130UJ	CALCIUM	30U	SODIUM
2.3U	CHROMIUM	0.78UJ	THALLIUM
3.5U	COBALT	NA	TIN
1.2U	COPPER	1.9U	VANADIUM
660	IRON	20UJ	ZINC
3J	LEAD	23	PERCENT MOISTURE
50U	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

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** PROJECT NO. 88-373 SAMPLE NO. 26455 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SS-03 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J311 **

*** ***

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
4700	ALUMINUM	37J	MANGANESE
7.3UR	ANTIMONY	0.1U	MERCURY
2.8JN	ARSENIC	7.1U	NICKEL
70	BARIUM	310U	POTASSIUM
0.37U	BERYLLIUM	0.62UR	SELENIUM
1UJ	CADMIUM	1.1U	SILVER
1100	CALCIUM	40UJ	SODIUM
8.7	CHROMIUM	0.62UJ	THALLIUM
2.7U	COBALT	NA	TIN
2.3J	COPPER	12	VANADIUM
5400	IRON	50UJ	ZINC
14J	LEAD	02	PERCENT MOISTURE
200	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26464   SAMPLE TYPE: SOIL   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SS-04   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE NUMBER: 9702   SAS NUMBER: MD NUMBER: J315

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
3100	ALUMINUM	140J	MANGANESE
7.5UR	ANTIMONY	0.11U	MERCURY
3JN	ARSENIC	23	NICKEL
100	BARIUM	320U	POTASSIUM
1UJ	BERYLLIUM	2UJ	SELENIUM
0.66U	CADMIUM	1.2U	SILVER
1/00	CALCIUM	60UJ	SODIUM
78	CHROMIUM	0.64UJ	THALLIUM
4.5	COBALT	NA	TIN
6.4J	COPPER	8.5	VANADIUM
4300	IRON	83J	ZINC
29J	LEAD	06	PERCENT MOISTURE
180	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES   *J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN   *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26449 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SB-01
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:
D. NO.: MD NO: J306

RESULTS	UNITS	PARAMETER
0.58U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26451 SAMPLE TYPE: SEDIM
SOURCE: CHAMPION INTERNATION
STATION ID: SD-01
CASE.NO.: 9702 SAS NO.:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NO.: MD NO: J303

RESULTS	UNITS	PARAMETER
0.63U	MG/KG	CYANIDE

FOOTNOTES
*A AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.   07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26448   SAMPLE TYPE: SOIL   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SS-01   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE.NO.: 9702   SAS NO.:   D. NO.:   MD NO: J304

RESULTS	UNITS	PARAMETER
0.51U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26454 SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION	CITY: ORANGEBURG ST: SC
STATION ID: CS-02	COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:	D. NO.: MD NO: J309

RESULTS	UNITS	PARAMETER
5.5	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26459 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SB-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.: D. NO.: MD NO: J314

RESULTS	UNITS	PARAMETER
0.54U	MG/KG	CYANIDE

FOOTNOTES
*A AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26458 SAMPLE TYPE: SEDIM	PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION	CITY: ORANGEBURG ST: SC
STATION ID: SD-02	COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:	D. NO.: MD NO: J310

RESULTS	UNITS	PARAMETER
0.68U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

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*** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ***
**   PROJECT NO. 88-373   SAMPLE NO. 26456  SAMPLE TYPE: SOIL        PROG ELEM: NSF   COLLECTED BY: A SPAUGH            **
**   SOURCE: CHAMPION INTERNATION                                    CITY: ORANGEBURG            ST: SC                  **
**   STATION ID: SB-03                                               COLLECTION START: 06/02/88        STOP: 00/00/00    **
**   CASE.NO.:  9702          SAS NO.:                               D. NO.:                     MD NO: J312             **
**                                                                                                                        **
*** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ***
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RESULTS	UNITS	PARAMETER
0.56U	MG/KG	CYANIDE

FOOTNOTES
*A AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES   *J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN   *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26453 SAMPLE TYPE: SEDIM
SOURCE: CHAMPION INTERNATION
STATION ID: SD-03
CASE.NO.: 9702 SAS NO.:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NO.: MD NO: J307

RESULTS	UNITS	PARAMETER
0.65U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA. 07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26455 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.: D. NO.: MD NO: J311

RESULTS	UNITS	PARAMETER
0.51U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26464 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-04 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.: D. NO.: MD NO: J315

RESULTS	UNITS	PARAMETER
0.53U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26450 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-01 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: MD NO: J305

RESULTS	UNITS	PARAMETER
0.01UJ	MG/L	CYANIDE

REMARKS
HOLDING TIME EXCEEDED-CN

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26457 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: MD NO: J313

RESULTS	UNITS	PARAMETER
0.01UJ	MG/L	CYANIDE

REMARKS
HOLDING TIME EXCEEDED-CN

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26452 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: MD NO: J308

RESULTS	UNITS	PARAMETER
0.01UJ	MG/L	CYANIDE

REMARKS
HOLDING TIME EXCEEDED-CN

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

Appendix B

APPENDIX B

SUMMARY OF GEOPHYSICAL METHODS

The following sections are from "Geophysical Techniques for Sensing Buried Wastes and Waste Migration" by Glaccum, R. A., and M. R. Noel, August, 1983, Technos, Inc., for Environmental Monitoring Systems Laboratory, ORD., USEPA, Las Vegas, Nevada.

ELECTROMAGNETICS (EM)*

The electromagnetic (EM) method provides a means of measuring the electrical conductivity of subsurface soil, rock, and ground water. Electrical conductivity is a function of the type of soil and rock, its porosity, its permeability, and the fluids which fill the pore space. In most cases the conductivity (specific conductance) of the pore fluids will dominate the measurement. Accordingly, the EM method is applicable both to assessment of natural geohydrologic conditions and to mapping of many types of contaminant plumes. Additionally, trench boundaries, buried wastes and drums, as well as metallic utility lines can be located with EM techniques.

Natural variations in subsurface conductivity may be caused by changes in soil moisture content, ground water specific conductance, depth of soil cover over rock, and thickness of soil and rock layers. Changes in basic soil or rock types, and structural features such as fractures or voids may also produce changes in conductivity. Localized deposits of natural organic, clay, sand, gravel, or saltrich zones will also affect subsurface conductivity.

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*The term electromagnetic has been used in contemporary literature as a descriptive term for other geophysical methods, including GPR and metal detectors which are based on electromagnetic principles. However, this document will use electromagnetic (EM) to specifically imply the measurement of subsurface conductivities by low-frequency electromagnetic induction. This is in keeping with the traditional use of the term in the geophysical industry from which the EM methods originated. While the authors recognize that there are many electromagnetic systems and manufacturers, the discussion in this section is based solely on instruments which are calibrated to read in electrical conductivity units and which have been effectively and extensively used at hazardous waste sites. There is only one manufacturer of such instruments at the time of this writing.

Many contaminants will produce an increase in free ion concentration when introduced into the soil or ground water systems. This increase over background conductivity enables detection and mapping of contaminated soil and ground water at Hazardous Waste Sites (HWS), landfills, and impoundments. Large amounts of organic fluids such as diesel fuel can displace the normal soil moisture, causing a decrease in conductivity which may also be mapped, although this is not commonly done. The mapping of a plume will usually define the local flow direction of contaminants. Contaminant migration rates can be established by comparing measurements taken at different times.

The absolute values of conductivity for geologic materials (and contaminants) are not necessarily diagnostic in themselves, but the variations in conductivity, laterally and with depth, are significant. It is these variations which enable the investigator to rapidly find anomalous conditions.

Since the EM method does not require ground contact, measurements may be made quite rapidly. Lateral variations in conductivity can be detected and mapped by a field technique called profiling. Profiling measurements may be made to depths ranging from 0.75 to 60 meters. The data is recorded using strip chart and magnetic tape recorders. This continuous measurement allows increased rates of data acquisition and improved resolution for mapping small geohydrologic features. Further, recorded data enhanced by computer processing has proved invaluable in the evaluation of complex hazardous waste sites. The excellent lateral resolution obtained from EM profiling data has been used to advantage in efforts to outline closely-spaced burial pits, to reveal the migration of contaminants into the surrounding soil, and to delineate fracture patterns.

Vertical variations in conductivity can also be detected by the EM method. A station measurement technique called sounding is employed for this purpose. Data can be acquired from depths by combining results from a variety of EM instruments, each requiring different field application techniques. Other EM systems are capable of sounding to depth of one-thousand feet or more, but have not yet been used at HWS and are not adaptable to continuous measurements.

Profiling is the most cost-effective use of the EM method. Continuous profiling can be used in many applications to increase resolution, data density, and permit total site coverage at critical sites.

At HWS, applications of EM can provide:

- Assessment of natural geohydrologic conditions;
- Locating and mapping of burial trenches and pits containing drums and/or bulk wastes;
- Determination of flow direction in both unsaturated and saturated zones;
- Rate of plume movement by comparing measurement taken at different times;
- Locating and mapping of utility pipes and cables which may affect other geophysical measurements, or whose trench may provide a permeable pathway for contaminant flow.

Although there is available a wide variety of EM equipment, most of it is intended for geophysical exploration of mineral deposits. These units have not been used at HWS and do not provide a simple conductivity reading. This document discusses only those instruments which are designed and calibrated to read directly in units of conductivity.

Conductance is measured with electronic instrumentation consisting of a transmitter coil and receiver coil. The transmitter coil radiates an electromagnetic field which induces eddy currents in the earth below the instrument. Each of these eddy current loops, in turn, generates a secondary electromagnetic field which is proportional to the magnitude of the current flowing within that loop. A part of the secondary magnetic field from each loop is intercepted by the receiver coil and produces an output voltage which (within limits) is linearly related to subsurface conductivity. This reading is a bulk measurement of conductivity, e.g., the cumulative response to subsurface conditions ranging all the way from the surface to the effective depth of the instrument.

The sampling depth of EM equipment is related to the instrument's coil spacing. Instruments with coil spacings of one, four, ten, twenty, and forty meters are commercially available. The nominal sampling depth of an EM system is taken to be approximately 1.5 times the coil spacing.

The EM sounding method can rarely identify more than two or three layers with reasonable confidence. The greater the contrast in the conductivity values of each layer, the better the results. Often, the more detailed resistivity sounding method is used to complement EM profiling data.

The results of sounding analysis are usually presented as a vertical section, in which the conductivity layers are identified as a function of depth. The analyst may be able to correlate these layers to geohydrologic units believed to exist at the site.

Although the EM technique can be used for profiling or sounding, profiling is the most effective use of the EM method. Profiling makes possible the rapid mapping of subsurface conductivity changes, and the location, delineation, and assessment of spatial variables resulting from changes in the natural setting or from many contaminants.

EM is a very effective reconnaissance tool. The use of qualitative non-recorded data can provide initial interpretation in the field. If site conditions are complex, the use of a high-density survey grid, continuously-recording instruments, and computer processing may be necessary, in order to properly evaluate subsurface conditions. When continuously-recording instruments are used, total site coverage is feasible. More quantitative information can be obtained by using conductivity data from different depth ranges. At present, three different systems must be used to acquire data from 0.75 to 60 meters. Very often, however, data from two standard depths, e.g. six and fifteen meters, is adequate to furnish depth information.

Capabilities

- The EM profile method permits rapid data acquisition, resulting in high-density and high-resolution surveys.
- Profiling data may be acquired from various discrete depths, ranging from 0.75 meters to 60 meters.
- Continuously-recording instruments (to fifteen meter depth) can increase survey speed, density, and resolution permitting total site coverage, if required.
- EM reads directly in conductivity units (mm/m) permitting use of raw data in the field, and correlation to specific conductance of ground water samples.
- EM can map local and general changes in the natural geohydrologic setting.
- EM can detect and measure the boundaries of a conductivity plume.
- Direction of plume flow can be determined from an EM conductivity map.
- EM measurements taken at different times can provide the means to compute movement rates of conservative contaminants.
- EM can detect and map burial pits and trenches of both bulk and drummed wastes.
- EM can detect and map the location of buried metallic utility lines.

Limitations

- EM has less sounding (vertical) resolution than the resistivity method due to its limited number of depth intervals.
- The acquisition of data from depths of 0.75 to 60 meters requires the use of three different EM systems.
- Continuous data can be obtained only to depths up to approximately fifteen meters.
- An EM measurement is influenced by the shallower materials more than the deeper ones; this must be considered when evaluating the data.
- EM measurements become non-linear in zones of very high conductivity.
- The EM method is susceptible to noise from a number of sources, including natural atmospheric noise, powerlines, radio transmitters, buried metallic trash, pipes, cables, nearby fences, vehicles, and buildings.

MAGNETOMETER

Magnetic measurements are commonly used to map regional geologic structure and to explore for minerals. They are also used to locate pipes and survey stakes or to map archeological sites. They are commonly used at HWS to locate buried drums and trenches.

A magnetometer measures the intensity of the earth's magnetic field. The presence of ferrous metals creates variations in the local strength of that field, permitting their detection. A magnetometer's response is proportional to the mass of the ferrous target. Typically, a single drum can be detected at distances up to six meters, while massive piles of drums can be detected at distances up to twenty meters or more.

Some magnetometers require the operator to stop and take discrete measurements; other instruments permit the acquisition of continuous data as the magnetometer is moved across the site. This continuous coverage is much more suitable for high resolution requirements and the mapping of extensive areas.

The effectiveness of a magnetometer can be reduced or totally inhibited by noise or interference from time-variable changes in the earth's field and spatial variations caused by magnetic minerals in the soil, or iron and steel debris, ferrous pipes, fences, buildings, and vehicles. Many of these problems can be avoided by careful selection of instruments and field techniques.

At HWS, magnetometers may be used to:

- Locate buried steel containers, such as 55-gallon drums;
- Define boundaries of trenches filled with ferrous containers;
- Locate ferrous underground utilities, such as iron piles or tanks, and the permeable pathways often associated with them;
- Select drilling locations that are clear of buried drums, underground utilities, and other obstructions.

A magnetometer measures the intensity of the earth's magnetic field. Variations in this field may be caused by the natural distribution of iron oxides within the soil and rock or by the presence of buried iron or steel objects. (The magnetometer does not respond to nonferrous metals such as aluminum, copper, tin, and brass).

The earth's magnetic field behaves much as if there were a large bar magnet embedded in the earth. Although the earth's field intensity varies considerably throughout the United States, its average value is approximately 50,000 gammas.* The angle of the magnetic field with respect to the earth's surface also varies. In the U.S., this angle of inclination ranges approximately sixty to seventy-five degrees from the horizontal.

The intensity of the earth's magnetic field changes daily with sunspots and ionospheric conditions which can cause large and sometimes rapid variations. With time, these variations produce unwanted signals (noise) and can substantially affect magnetic measurements.

If the magnetic properties of the soil and rock were perfectly uniform, there would be no local magnetic anomalies; however, a concentration of natural iron minerals, or a buried iron object, will cause a local magnetic anomaly which can be detected at the surface.

Typical magnetic anomalies at HWS will range from one to hundreds of gammas for small discrete targets, depending on their depth. Massive piles of buried drums will result in anomalies of from one-hundred to one-thousand gammas or more.

---

*The unit of magnetic measurement is the gamma. Recently, the gamma unit has been renamed the Nano Tesla. At this time, most instruments are still labeled in gammas, as are specification sheets, existing literature, and field data; hence all references to magnetic data in this document are expressed in gammas.

While several factors influence the response of a magnetometer, the mass of a buried target and its depth are the most important. A magnetometer's response is directly proportional to the mass of ferrous metal present and varies by one over the distance cubed ($1/d^3$) for total measurements. If a gradiometer is used, the response falls off even faster, as one over the distance to the fourth power ($1d^4$). With sensors of equal sensitivity, the total field system provides the greater working range. Typically a single drum can be detected at distances up to six meters or more. There is a wide variety of magnetometers available commercially; specific performance is highly dependent upon the type of magnetometer and the field conditions. Theoretically, the number of drums may be calculated, however, such results should be considered only approximations because of the number of variables associated with targets, site conditions, and calculations. Actual results may vary considerably.

A magnetometer with continuous recording capabilities can be used to produce a strip chart of the field data, which is helpful in assessing signal-to-noise ratio, anomaly shape, target location, and provides a means of exercising quality control over field data. This continuous coverage is much more suitable for high-resolution requirements and the mapping of extensive areas.

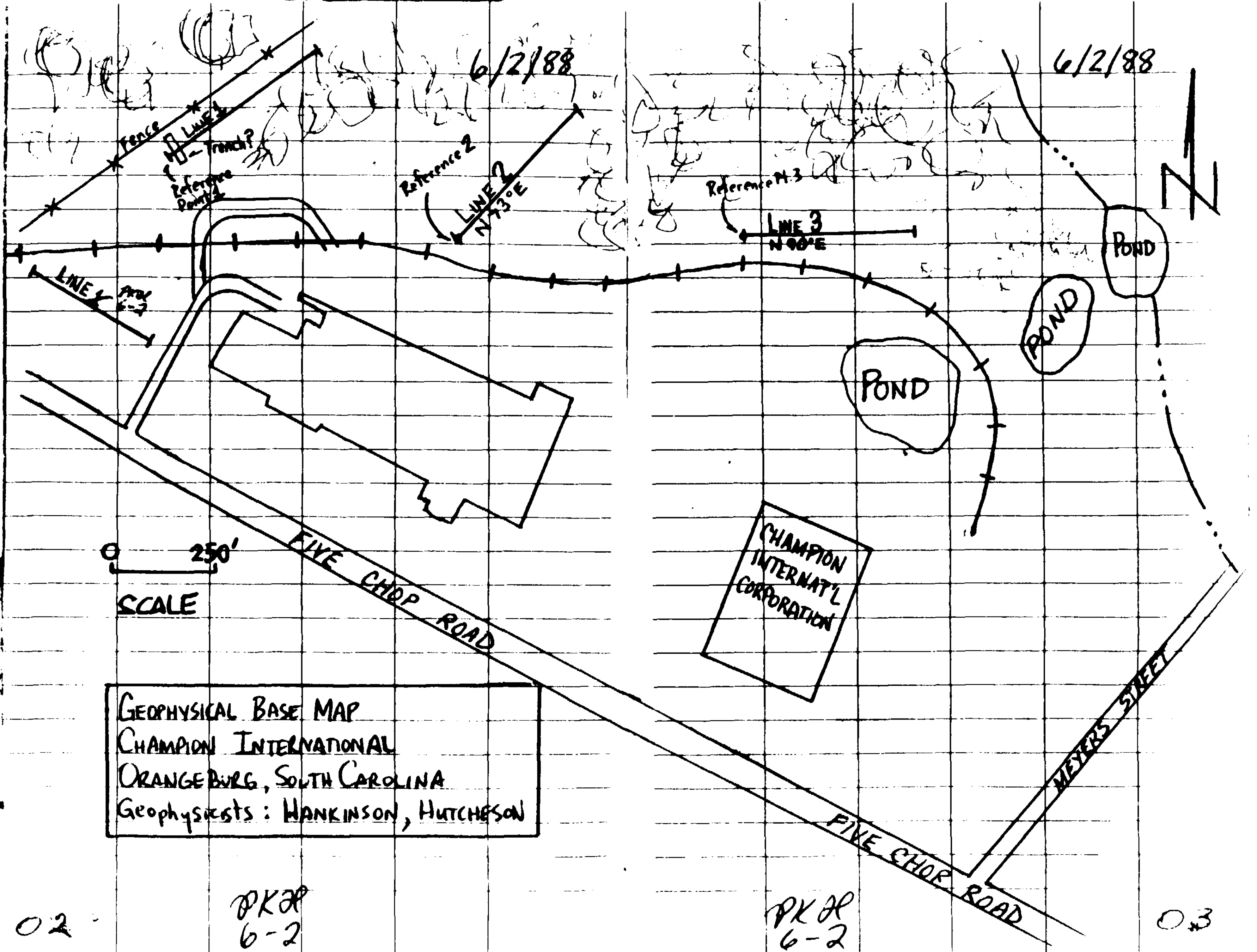
The effectiveness of a magnetometer can be reduced or totally inhibited by noise or interference from time-variable changes in the earth's field and spatial variations caused by magnetic minerals in the soil, or iron and steel debris, ferrous pipes, fences, buildings, and vehicles. Many of these problems can be avoided by careful selection of instruments and field techniques.

Capabilities

- Magnetometers respond to ferrous metals (iron or steel) only.
- Individual drums can be detected at depths up to six meters.
- Large masses of drums can be detected at depths of six to twenty meters.
- Magnetometers can provide a greater depth range than metal detectors.
- Interpretation of their data may be used to provide estimates of the number and depth of buried drums.
- They can provide a continuous response along a traverse line.
- They may be mounted on vehicles for coverage of a large site.

Limitations

- In general, magnetometers are susceptible to noise from many different sources, including steel fences, vehicles, buildings, iron debris, natural soil minerals, and underground utilities.
- Low cost units are limited in depth range (but their limitations make them insensitive to many of the above sources of noise).
- Total field instruments are also sensitive to fluctuations in the earth's magnetic field which can seriously affect data.
- Data is of limited use in determining the number and depth of targets.
- Complex site conditions may require the use of highly skilled operators, special equipment, and the recording and processing of data, along with skilled interpretation.

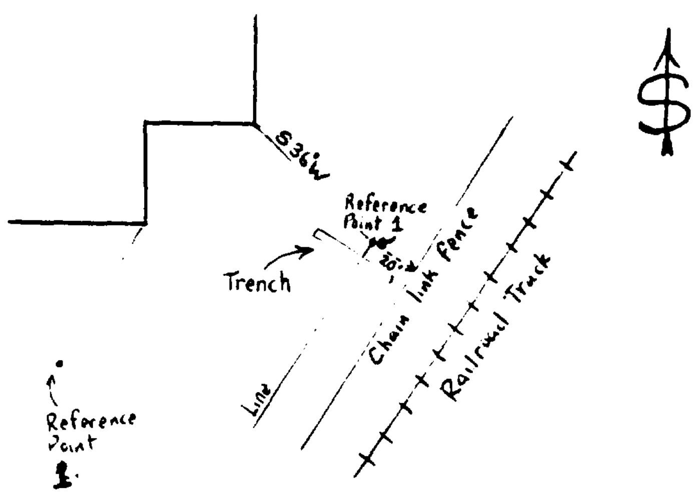

6/2/88
6/2/88
N
Fence
LINE 1
Trench?
Reference Point 1
Reference 2
LINE 2
N 73°E
Reference Pt. 3
LINE 3
N 90°E
LINE 4
POND
POND
POND
0
250'
SCALE
FIVE CHOP ROAD
FIVE CHOP ROAD
MEYERS STREET
CHAMPION INTERNAT'L CORPORATION
GEOPHYSICAL BASE MAP
CHAMPION INTERNATIONAL
ORANGEBURG, SOUTH CAROLINA
Geophysicists : HANKINSON, HUTCHESON
02
PK 6-2
PK 6-2
03

NUS CORPORATION

LINE 1

EM RECORDING SHEET

	REC #	STATION LINE	STATION SHOT #	READING	SCALE	CORRECTED VALUE	
Ref. Pt. 1	1	1	0	0.74	100	74	0.72(100)EW
	2	1	1	0.82	100	82	0.85(100)EW
	3	1	2	0.90	100	90	0.96(100)EW
	4	1	3	0.32	300	96	—
	5	1	4	0.32	300	96	0.36 (300) EW
	6	1	5	0.32	300	96	0.36(300)EW
	7	1	6	0.37	300	111	0.43(300)EW
	8	1	7	—	—	—	
	9	1	8	—	—	—	
	0						
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	0						

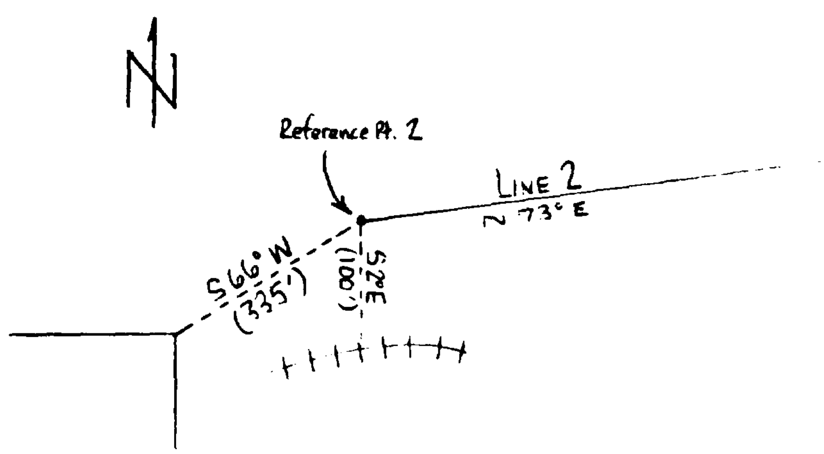


NUS CORPORATION

LINE 2

EM RECORDING SHEET

	REC #	STATION X LINE	STATION Y SHOT #	READING	SCALE	CORRECTED VALUE	
Ref. Pt. 2	1	2	0	0.20	100	20	
	2	2	1	0.26	100	26	
	3	2	2	0.36	100	36	
	4	2	3	< 0.00	1000	< 0	metal debris
	5	2	4	0.39	100	39	0.32 (100) EW
	6	2	5	0.26	100	26	<0 (1000) EW
	7	2	6	0.39	100	39	0.44 (100) EW
	8	2	7	<0.00	1000	<0	0.26 (100)
	9	2	8	<0.00	1000	<0	<0 (1000)
	0	2	9	0.56	100	56	0.48 (100)
	1	2	10	0.52	100	52	0.48 (100)
	2	2	11	0.46	100	46	
	3	2	12	0.40	100	40	
	4	2	13	0.45	100	45	
	5						
	6						
	7						
	8						
	9						
	0						

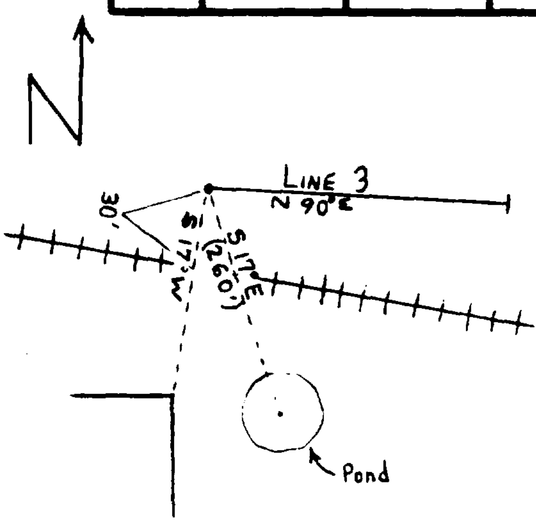


NUS CORPORATION

LINE 3

EM RECORDING SHEET

	REC #	STATION		READING	SCALE	CORRECTED VALUE	
		X LINE	Y SHOT PT.				
Ref. Pt. 3	1	3	0	0.28	100	28	
	2	3	1	0.22	100	22	0.31(100)
	3	3	2	0.12	300	36	0.21(300)
	4	3	3	0.28	100	28	0.68(100)
	5	3	4	0.32	300	96	
	6	3	5	0.58	300	174	0.56(300)
	7	3	6	0.52	300	156	0.50(300)
	8	3	7	0.54	300	162	0.58(300)
	9	3	8	0.33	300	99	0.31(300)
	0			30' from	creek		
	1						
	2						
	3						
	4						
	5						
	6						
	7						
	8						
	9						
	0						



Appendix C

OVERSIZED

DOCUMENT

Appendix D

Site Inspection Report

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 2 - WASTE INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SC	DCO33421771

II. WASTE STATES, QUANTITIES, AND CHARACTERISTICS

01 PHYSICAL STATES (Check all that apply)

- [x] A. SOLID
- [ ] B. POWDER, FINES
- [ ] C. SLUDGE
- [ ] D. OTHER ____ (Specify)
- [ ] E. SLURRY
- [x] F. LIQUID
- [ ] G. GAS

02 WASTE QUANTITY AT SITE (Measures of waste quantities must be independent)

TONS ____

CUBIC YARDS ____

NO. OF DRUMS 300

03 WASTE CHARACTERISTICS (Check all that apply)

- [ ] A. TOXIC
- [ ] B. CORROSIVE
- [ ] C. RADIOACTIVE
- [ ] D. PERSISTENT
- [x] E. SOLUBLE
- [ ] F. INFECTIOUS
- [ ] G. FLAMMABLE
- [ ] H. IGNITABLE
- [ ] I. HIGHLY VOLATILE
- [ ] J. EXPLOSIVE
- [ ] K. REACTIVE
- [ ] L. INCOMPATIBLE
- [ ] M. NOT APPLICABLE

III. WASTE TYPE

CATEGORY	SUBSTANCE NAME	01 GROSS AMOUNT	02 UNIT OF MEASURE	03 COMMENTS
SLU	SLUDGE			
OLW	OILY WASTE			
SOL	SOLVENTS			
PSD	PESTICIDES			
OCC	OTHER ORGANIC CHEMICALS			
IOC	INORGANIC CHEMICALS			
ACD	ACIDS			
BAS	BASES			
MES	HEAVY METALS			

IV. HAZARDOUS SUBSTANCES (See Appendix for most frequently cited CAS Numbers)

01 CATEGORY	02 SUBSTANCE NAME	03 CAS NUMBER	04 STORAGE/DISPOSAL METHOD	05 CONCENTRATION	06 MEASURE OF CONCENTRATION

V. FEEDSTOCKS (See Appendix for CAS Numbers)

CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER	CATEGORY	01 FEEDSTOCK NAME	02 CAS NUMBER
FDS			FDS		
FDS			FDS		
FDS			FDS		
FDS			FDS		

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION
PART 4 - PERMIT AND DESCRIPTIVE INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003342177

II. PERMIT INFORMATION

01 TYPE OF PERMIT ISSUED (Check all that apply)	02 PERMIT NUMBER	03 DATE ISSUED	04 EXPIRATION DATE	05 COMMENTS
☐ A. NPDES				
☐ B. UIC				
☐ C. AIR				
☐ D. RCRA				
☐ E. RCRA INTERIM STATUS				
☐ F. SPCC PLAN				
☐ G. STATE (Specify)				
☐ H. LOCAL (Specify)				
☐ I. OTHER (Specify)				
☐ J. NONE				

III. SITE DESCRIPTION

01 STORAGE/DISPOSAL (Check all that apply)	02 AMOUNT	03 UNIT OF MEASURE
☐ A. SURFACE IMPOUNDMENT		
☑ B. PILES		
☑ C. DRUMS, ABOVE GROUND		
☐ D. TANK, ABOVE GROUND		
☐ E. TANK, BELOW GROUND		
☑ F. LANDFILL		
☐ G. LANDFARM		
☐ H. OPEN DUMP		
☐ I. OTHER (Specify)		

04 TREATMENT (Check all that apply)

- ☐ A. INCENERATION
- ☐ B. UNDERGROUND INJECTION
- ☐ C. CHEMICAL/PHYSICAL
- ☐ D. BIOLOGICAL
- ☐ E. WASTE OIL PROCESSING
- ☐ F. SOLVENT RECOVERY
- ☐ G. OTHER RECYCLING/RECOVERY
- ☐ H. OTHER (Specify)

05 OTHER

- ☑ A. BUILDINGS ON SITE

06 AREA OF SITE

43.5 Acres

07 COMMENTS

IV. CONTAINMENT

01 CONTAINMENT OF WASTES (Check one)

☐ A. ADEQUATE, SECURE ☐ B. MODERATE ☐ C. INADEQUATE, POOR ☑ D. INSECURE, UNSOUND, DANGEROUS

02 DESCRIPTION OF DRUMS, DIKING, LINERS, BARRIERS, ETC.

V. ACCESSIBILITY

01 WASTE EASILY ACCESSIBLE: ☑ YES ☐ NO

02 COMMENTS

VI. SOURCES OF INFORMATION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 11 - ENFORCEMENT INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SD	0233342177

II. ENFORCEMENT INFORMATION

01 PAST REGULATORY ENFORCEMENT ACTION ☐ YES ☐ NO

02 DESCRIPTION OF FEDERAL, STATE, LOCAL REGULATORY ENFORCEMENT ACTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
OD	CC 3342177

II PAST RESPONSE ACTIVITIES (Continued)

01 ☐ R BARRIER WALLS CONSTRUCTED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ S CAPPING/COVERING 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ T BULK TANKAGE REPAIRED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ U GROUT CURTAIN CONSTRUCTED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ V BOTTOM SEALED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ W GAS CONTROL 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ X FIRE CONTROL 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Y LEACHATE TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Z AREA EVACUATED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 1 ACCESS TO SITE RESTRICTED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 2 POPULATION RELOCATED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ 3 OTHER REMEDIAL ACTIVITIES 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

III. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 10 - PAST RESPONSE ACTIVITIES

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003342177

II. PAST RESPONSE ACTIVITIES

01 ☐ A. WATER SUPPLY CLOSED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ B. TEMPORARY WATER SUPPLY PROVIDED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ C. PERMANENT WATER SUPPLY PROVIDED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ D. SPILLED MATERIAL REMOVED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ E. CONTAMINATED SOIL REMOVED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ F. WASTE REPACKAGED 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ G. WASTE DISPOSED ELSEWHERE 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ H. ON SITE BURIAL 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ I. IN SITU CHEMICAL TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ J. IN SITU BIOLOGICAL TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ K. IN SITU PHYSICAL TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ L. ENCAPSULATION 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ M. EMERGENCY WASTE TREATMENT 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ N. CUTOFF WALLS 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ O. EMERGENCY DIKING/SURFACE WATER DIVERSION 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ P. CUTOFF TRENCHES/SUMP 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

01 ☐ Q. SUBSURFACE CUTOFF WALL 02 DATE ______ 03 AGENCY ______
04 DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 9 - GENERATOR/TRANSPORTER INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	[illegible]

II. ON-SITE GENERATOR

01 NAME	02 D+B NUMBER
Champion International Corp.	
03 STREET ADDRESS (P O Box, RFD #, etc.)	04 SIC CODE
[illegible] Rd + Myers Rd	
05 CITY	06 STATE	07 ZIP CODE
[illegible]	SC	

III. OFF-SITE GENERATOR(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P O Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P O Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE / 07 ZIP CODE		05 CITY / 06 STATE / 07 ZIP CODE	
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P O Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P O Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE / 07 ZIP CODE		05 CITY / 06 STATE / 07 ZIP CODE	

IV. TRANSPORTER(S)

01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P O Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P O Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE / 07 ZIP CODE		05 CITY / 06 STATE / 07 ZIP CODE	
01 NAME	02 D+B NUMBER	01 NAME	02 D+B NUMBER
03 STREET ADDRESS (P O Box, RFD #, etc.)	04 SIC CODE	03 STREET ADDRESS (P O Box, RFD #, etc.)	04 SIC CODE
05 CITY / 06 STATE / 07 ZIP CODE		05 CITY / 06 STATE / 07 ZIP CODE	

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - OPERATOR INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER
SCD	003342177

II. CURRENT OPERATOR (Provide if different from owner)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION	09 NAME OF OWNER
Decilom Inc		Five Chop Rd + Mayers St		Simpsonville	SC		.5	Past Champion Employees

OPERATOR'S PARENT COMPANY (If applicable)

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	14 CITY	15 STATE	16 ZIP CODE

III. PREVIOUS OPERATOR(S) (List most recent first; provide only if different from owner)

01 NAME	02 D+B NUMBER	03 STREET ADDRESS (P.O. Box, RFD #, etc.)	04 SIC CODE	05 CITY	06 STATE	07 ZIP CODE	08 YEARS OF OPERATION	09 NAME OF OWNER DURING THIS PERIOD
Georgia Pacific Corp		133 Peachtree St NE		Atlanta	Ga	30303	.5	
Champion International Corp.								

PREVIOUS OPERATORS' PARENT COMPANIES (If applicable)

10 NAME	11 D+B NUMBER	12 STREET ADDRESS (P.O. Box, RFD #, etc.)	13 SIC CODE	14 CITY	15 STATE	16 ZIP CODE

IV. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 7 - OWNER INFORMATION

I. IDENTIFICATION

01 STATE	02 SITE NUMBER

II. CURRENT OWNER(S)

01 NAME: Georgia Pacific Corporation		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.): 133 [illegible] St NE		04 SIC CODE:	
05 CITY: Atlanta	06 STATE: GA	07 ZIP CODE: 30303	
01 NAME:		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	
01 NAME:		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	
01 NAME:		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	

PARENT COMPANY (if applicable)

08 NAME:		09 D+B NUMBER:	
10 STREET ADDRESS (P.O. Box, RFD #, etc.):		11 SIC CODE:	
12 CITY:	13 STATE:	14 ZIP CODE:	
08 NAME:		09 D+B NUMBER:	
10 STREET ADDRESS (P.O. Box, RFD #, etc.):		11 SIC CODE:	
12 CITY:	13 STATE:	14 ZIP CODE:	
08 NAME:		09 D+B NUMBER:	
10 STREET ADDRESS (P.O. Box, RFD #, etc.):		11 SIC CODE:	
12 CITY:	13 STATE:	14 ZIP CODE:	
08 NAME:		09 D+B NUMBER:	
10 STREET ADDRESS (P.O. Box, RFD #, etc.):		11 SIC CODE:	
12 CITY:	13 STATE:	14 ZIP CODE:	

III. PREVIOUS OWNER(S) (List most recent first)

01 NAME: Champion International		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	
01 NAME:		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	
01 NAME:		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	

IV. REALTY OWNER(S) (If applicable; list most recent first)

01 NAME:		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	
01 NAME:		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	
01 NAME:		02 D+B NUMBER:	
03 STREET ADDRESS (P.O. Box, RFD #, etc.):		04 SIC CODE:	
05 CITY:	06 STATE:	07 ZIP CODE:	

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 8 - SAMPLE AND FIELD INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003342177

II. SAMPLES TAKEN

SAMPLE TYPE	01 NUMBER OF SAMPLES TAKEN	02 SAMPLES SENT TO	03 ESTIMATED DATE RESULTS AVAILABLE
GROUNDWATER			
SURFACE WATER	3	Compuchem - Organics Keystone Environmental - Inorganics	
WASTE			
AIR			
RUNOFF			
SPILL			
SOIL	10	" " " "	
VEGETATION			
OTHER			

III. FIELD MEASUREMENTS TAKEN

01 TYPE	02 COMMENTS
	PH Conductivity, and temperature of surface water

IV. PHOTOGRAPHS AND MAPS

01 TYPE ☒ GROUND ☐ AERIAL

02 IN CUSTODY OF NUS Corporation
(Name of organization or individual)

03 MAPS
☐ YES
☐ NO

04 LOCATION OF MAPS

V. OTHER FIELD DATA COLLECTED (Provide narrative description)

VI. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA FORM 2070-13 (7-81)

NUS CORPORATION AND SUBSIDIARIES | **TELECON NOTE**

CONTROL NO. F4-8801-06	DATE: December 12, 1988	TIME: 1330
DISTRIBUTION: Champion International Corporation		
BETWEEN: Ozzie Fogle	OF: Decolam, Inc.	PHONE: (803) 534-2632
AND: Teresa Sawyer, NUS Corporation		

DISCUSSION:

I requested information on specific dates of operation for the various companies that have operated at this facility. Prior to 1948, it is unknown what theland was used for. Construction began in 1948 for U.S. Plywood and production began in 1950-1951. In the sixties, Champion International and U.S. Plywood merged, it remained as such until August of 1985, when it was purchased and again names U.S. Plywood in June of 1988, Georgia Pacific purchased the property Decolam is now leasing the property from Ga. Pacific. He also gave me some detailes on the manufacturing process. There was a vaneer peeling operation in the early 60's, but this was discontinued. They then obtained vaneer from outside sources and glued the vaneer to panelling. Then there was a finishing operation which included sanding and coating.

ACTION ITEMS:

File

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

J. MARION SIMS BUILDING • COLUMBIA, SOUTH CAROLINA 29201 • PHONE 803 758-5654

MESSAGE	REPLY

US Plywood - Champion INT.
Orangeburg S.C.
CERCLA site

TO MS Jerri Higgins
NUS Corporation
927 Lakeside Parkway
Suite 614
Tucker, GA. 30084

DATE 9 March 88

Reference No. 1

After we spoke, I called the US Plywood (Champion) plant in Orangeburg. I needed to know their status as well. GA Pacific did buy the plant and then shut it down. I don't know the reasoning for this. Most of my contacts with the plant are gone. Ozzie Fogle, former V.P. + General Manager is still there. A group went together and purchased part of the plant. It is now known as Decolam Inc. Ozzie Fogle is President of the company. Only the vinyl laminating process is in operation.

Ozzie Fogle, President
Decolam, Inc
POB 2126
Orangeburg, S.C. 29116-2126
Phone 803-534-2632

BY

SIGNED Continued

INSTRUCTIONS TO SENDER

... YELLOW COPY 2. SEND WHITE AND PINK COPIES WITH CARBON INTACT

INSTRUCTIONS TO RECEIVER

1. WRITE REPLY 2. DETACH STUB, KEEP PINK COPY, RETURN WHITE COPY TO SENDER

Reference No. 2

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

J. MARION SIMS BUILDING • COLUMBIA, SOUTH CAROLINA 29201 • PHONE 803 758-5654

MESSAGE	REPLY
TO MS. JERRI HIGGINS PAGE TWO 9 MAR., 88	DATE

DATE ATTACHED ARE COPIES OF SOME MATERIALS WHICH MIGHT BE HELPFUL TO YOU. COLUMBIA PURGES THEIR FILES AND INFORMATION IS EFFECTIVELY LOST! ATTACHED ARE THE FOLLOWING:

(1) SEPT. 17, 1974 INSPECTION OF "CLOSED" DUMP BY CAPERS DIXON. CAPERS WORKS IN OUR WATEREE (SUMTER, S.C.) DISTRICT, (803-778-6548) I'VE INQUIRED BEFORE. HE DOESN'T REMEMBER ANYTHING SIGNIFICANT. WE SURE WERE OPTIMISTIC ABOUT BURYING THINGS IN 1974. I WAS IN WASTEWATER BACK THEN, BUT FELT THE SAME. IN THE YEAR 2000, THEY WILL DISCUSS THE DUMB THINGS WE DID IN THE 80'S AND 90'S!

(2) JAN 16, 1981 MEMO REGARDING ISS VS GENERATOR STATUS.

(3) WITHDRAWAL REQUEST OF SOLTS (JAN 8, 81)

BY

SIGNED CONTINUED

INSTRUCTIONS TO SENDER: ... YELLOW COPY 2. SEND WHITE AND PINK COPIES WITH CARBON INTACT

INSTRUCTIONS TO RECEIVER: 1. WRITE REPLY 2. DETACH STUB, KEEP PINK COPY, RETURN WHITE COPY TO SENDER

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

J. MARION SIMS BUILDING • COLUMBIA, SOUTH CAROLINA 29201 • PHONE 803 758-5654

MESSAGE	REPLY
TO MS JERRI HIGGINS PAGE TREC 9 MAR. 88	DATE

DATE

(4) June 21, 82 ISS inspection narrative, map, etc

At That time They seem to have still been looked at as an ISS facility

(5) March 15, 1984 narrative indicates Generator status. I can remember That we had a lot of facilities who were in limbo. Decisions were made as to who was a generator, TSD, etc. I don't remember The details.

(6) June 17, 1986 write up of a Generator Report - It again mentions The old dump.

(7) Two maps you might find helpful.

PS: We work with your NUS office in Aiken Regarding The Savannah River Plant (DOE). In fact Phillip Mater now works for NUS in Aiken. Phillip was my compliance contact.

BY

Hope This Helps,

SIGNED J M Burckhalter
Aiken EQC

INSTRUCTIONS TO SENDER

KEEP YELLOW COPY. 2. SEND WHITE AND PINK COPIES WITH CARBON INTACT

INSTRUCTIONS TO RECEIVER:

1. WRITE REPLY. 2. DETACH STUB, KEEP PINK COPY, RETURN WHITE COPY TO SENDER

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S. C. 29201

January 16, 1981

Mr. Jim Thompson
Champion International Corporation
Knightsbridge
Hamilton, Ohio 45020

RE: Hazardous Waste Facility Permit Applications

Dear Mr. Thompson:

This office has received your letters of January 8, 1981 requesting that the hazardous waste permit applications for the Catawba, Newberry, and Orangeburg Plants be amended to show the status of the facility as a generator only. In accordance with your request, this has been accomplished. Further, the notification forms for these facilities will be amended to be consistent with the permit applications. If at some future date the status of these facilities revert to that of a treatment, storage, or disposal facility, the permit review process can be initiated upon notification from your company or the affected plants.

Thank you for your cooperation in this matter.

Sincerely,

C. Allen McEntire

C. Allen McEntire
Facilities Evaluation Section
Bureau of Solid and Hazardous
Waste Management

CAM:dhs

cc: Boyce Faulkner
Jim Moseley
James Burckhalter

CERTIFIED MAIL

Champion
Champion International Corporation

Mr. Hartsill W. Truesdale, P.E., Director
Solid and Hazardous Waste Management Division
2600 Bull Street
Columbia, South Carolina 29201

January 8, 1981

Re: South Carolina Hazardous
Waste Permit Application

Dear Mr. Truesdale:

On September 26, 1980, a completed Hazardous Waste Facility Permit application was submitted to the State of South Carolina for our Champion Building Products' Orangeburg, South Carolina facility. At that time the facility was designated as a generator engaged in the treatment, storage, and disposal of hazardous waste.

After further review of the amount of hazardous waste generated at this facility and the methods of disposal used, it was determined that all hazardous waste would be removed from the plant site within the 90 day period as referenced in the State and Federal Hazardous Waste Regulations governing generators of hazardous waste. On November 12, 1980, a second notification was filed with the EPA designating this facility as a generator of hazardous waste.

We received a letter from your office on October 13, 1980, stating that our application had been received and was being evaluated. At this time we would like to request that the present state application be amended to show the status of the facility as that of a hazardous waste generator only.

Sincerely,

Jim Thompson

Jim Thompson, Assistant Manager
Eastern Environmental Affairs
Solid Wood Products

mg

cc: Larry Fields
Chris Julian
Fred Rigden

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

MEMORANDUM

DATE: March 15,1984

TO: Phillip Prater
Facility Compliance Section
Bureau of Solid & Hazardous Waste

FROM: James M. Burckhalter, EQM J M Burckhalter
Lower Savannah District EQC

SUBJECT: Champion Building Products, Orangeburg, S. C.
Generator Inspection; I. D. #SCD003342177

On March 7, 1984, a visit was made to the above plant for the purpose of determining compliance with the requirements of the South Carolina Hazardous Waste Regulations. Mr. Chris Julian, Manager, Finishes Laboratory, primarily represented the company.

The Champion plant produces home panelling. The resulting waste streams are mainly glue and solvents.

Champion's pre-finish waste consists of solvents from wash machines. Approximately 4700 gallons per year are handled by M & J Solvents of Atlanta, Georgia. Pick-up is in less than 90 days.

Champion's next waste stream is from the vinyl laminating line and consists of waste glue and wash up solvents. The result is a solid with some liquid on top. This material is disposed of at Chemical Waste Management's Alabama site. One hundred eighty (180) drums have been shipped since July, 1983.

Five to six drums (high estimate) of cured urea-formaldehyde glue is disposed of at the county landfill each month. A refrigerated recovery system has greatly reduced generation of this glue waste. Some of the urea-formaldehyde glue waste is mixed with wood chips, and the resulting solid is burned in the plant's wood-fired boiler. The Bureau of Air Quality Control is aware of the practice.

All manifests examined appeared to be in order. Accumulation times seemed acceptable. Plant officials stated that quarterly reports are being submitted to central office. At present, contingency fund requirements do not appear applicable. The annual report was prepared by corporate headquarters.

All containers that were examined were acceptable. A roofed, concrete based shed is utilized to accumulate waste.

No deficiencies were noted during the inspection. Company officials were again advised to investigate the old plant dump located on their property.

JMB:maj

cc: Chris Julian, Champion Building Products
Kin Hill, Lower Savannah District EQC Director

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

Lower Savannah District
Environmental Quality Control
117 Marion Street, N.E.
Aiken, S.C. 29801
(803) 648-9561

June 17, 1986

Mr. Chris Julian
U. S. Plywood Corporation
P. O. Box 1087
Orangeburg, South Carolina 29115

RE: Generator Inspection
U. S. Plywood Corporation
SCD003342177
Orangeburg County

Dear Mr. Julian:

On May 30, 1986, representatives of this office inspected the above referenced industry for compliance with the generator requirements as specified in the South Carolina Hazardous Waste Management Regulations promulgated pursuant to Section 44-56-10 et seq. of the 1976 South Carolina Code of Laws, as amended.

Inspection participants are listed below:

Chris Julian, representing U. S. Plywood Corporation
Marion Fanning, representing U. S. Plywood Corporation
James Burckhalter, representing S. C. Dept. of Health & Environmental Control

The following deficiencies were noted during the inspection and require immediate correction:

R.61-79.265.16(c) - An annual review of hazardous waste training must be conducted. This was not documented.

R.61-79.265.52(c) - Formal arrangements with local police, fire, hospital, contractors and emergency response teams are required.

R.61-79.265.53(b) - Copies of the contingency plan must be submitted to local authorities.

Information stating compliance with these requirements must be submitted, in writing, to this office by July 17, 1986.

Re: Generator Inspection
U. S. Plywood Corporation
SCD003342177 - Orangeburg County

A copy of the checklist used during the inspection is attached.

Your plant's situation is different from most. No one person is responsible for the hazardous waste management program. This fragmentation of records and responsibilities makes the inspection process somewhat more complicated. Due to the interrelationships that exist between various portions of the Hazardous Waste Management Regulations, it would be best if one person coordinated the various efforts.

As was mentioned during the visit, further investigation of the **old drum site and cooling water basin** by your company would seem prudent. Little concrete information appears to be available concerning the drum site. The possible presence of chromate cleaners in your cooling water basin should be investigated. In past years, the use of chromate cleaners was quite common. Since both sites are adjacent to a small stream, the stream may need investigation regarding possible impact by these sites. These investigations will eventually be conducted by the Department of Health and Environmental Control. If problems are present, there could be advantages to addressing them promptly and not waiting on DHEC to find them.

If you have any questions, please contact me at 648-9561.

Sincerely,

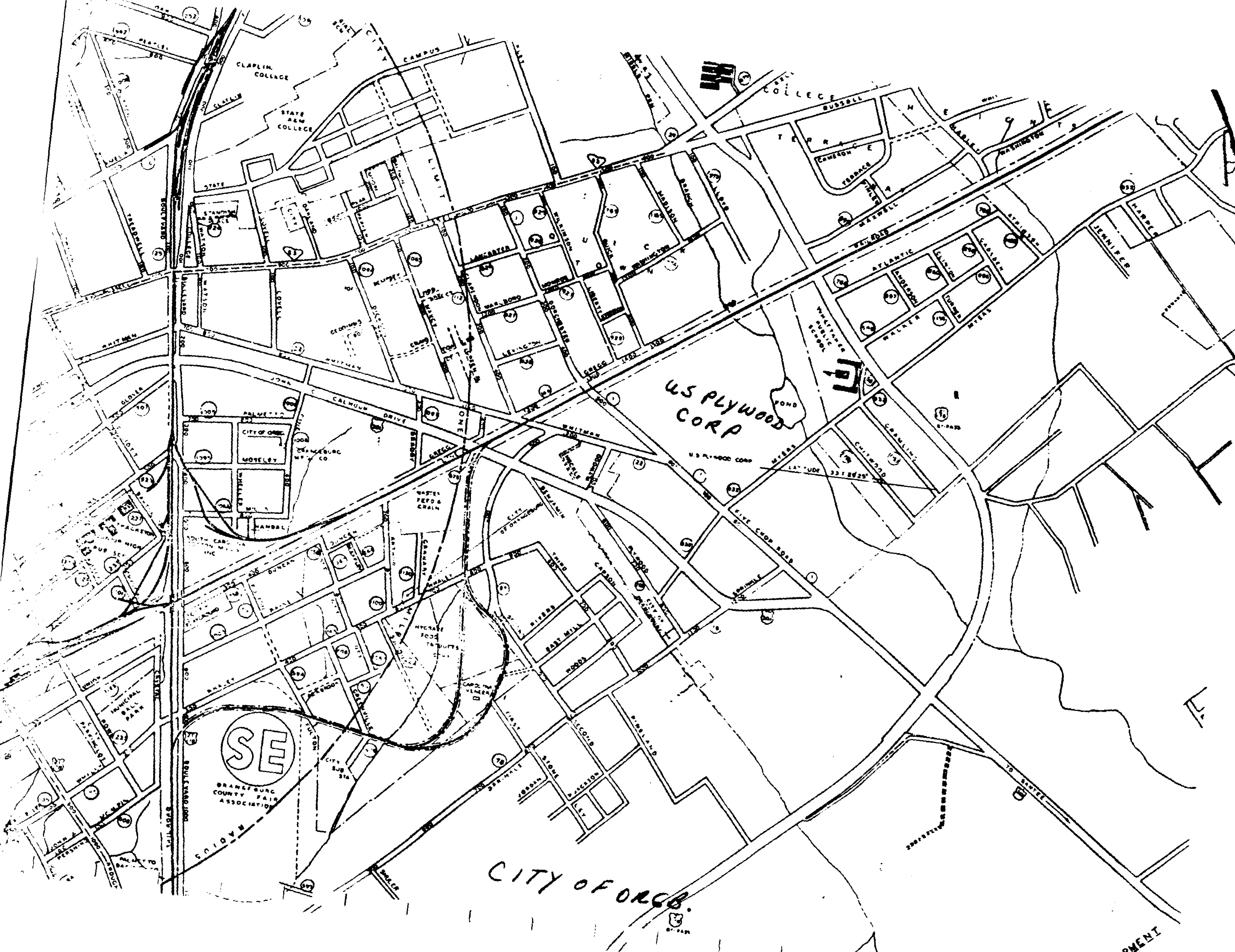
J M Burckhalter

James M. Burckhalter
Solid & Hazardous Waste Consultant
Lower Savannah District
Environmental Quality Control

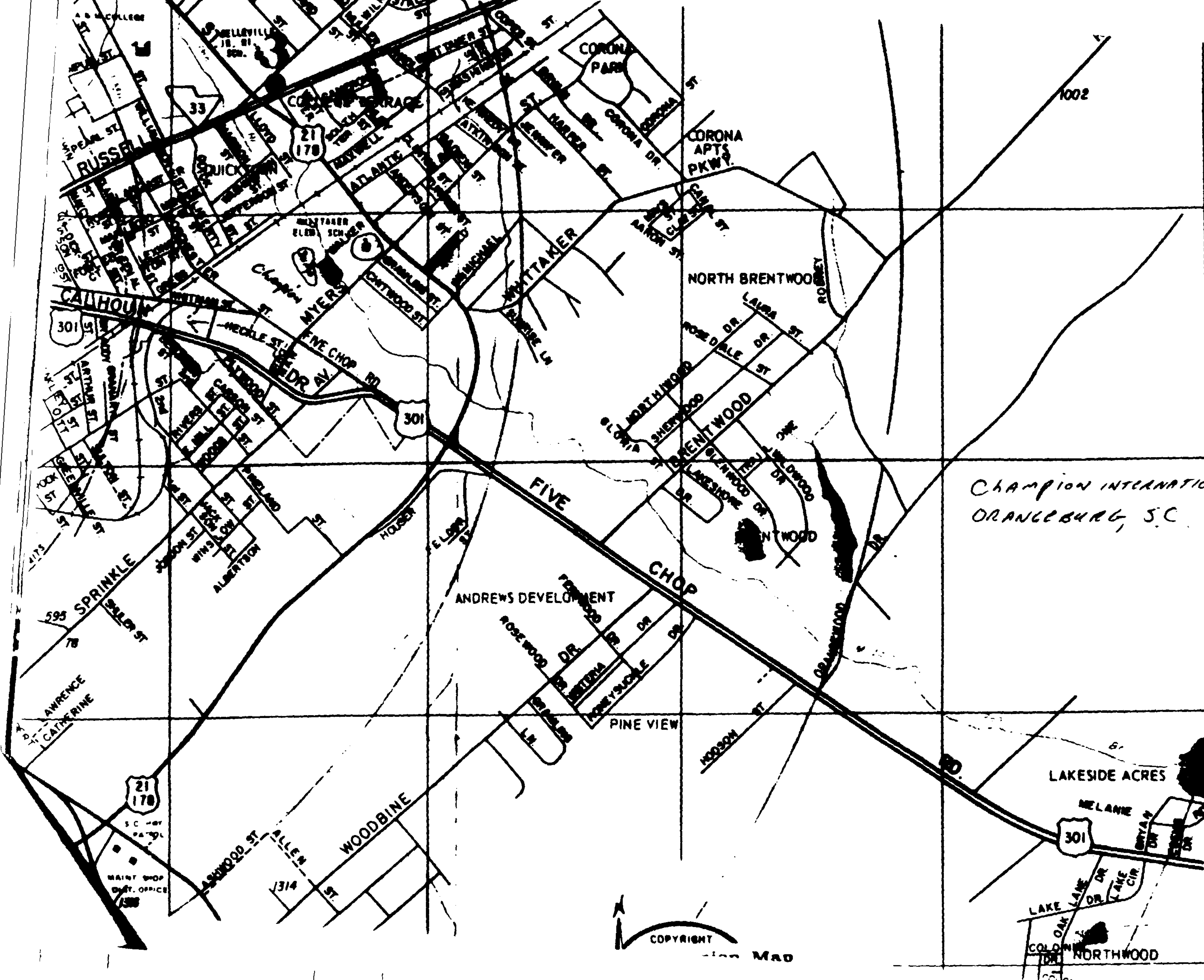
JMB:maj

enclosure

cc: Phillip Prater, Bureau of Solid & Hazardous Waste, S.C. DHEC
Kin Hill, Lower Savannah District EQC
Kim Cauthen, Lower Savannah District EQC



CLAFLIN COLLEGE
STATE A&M COLLEGE
CAMPUS
CITY LIMIT
COLLEGE
RUSSELL
TERRACE
CAMERON
MAXWELL
ATLANTIC
WALKER
MYERS
JENNIFER
WHITMAN
JOHN C. CALHOUN DRIVE
PALMETTO
MOSELEY
LEXINGTON
GREGG
U.S. PLYWOOD CORP
POND
FIVE CHOP ROAD
PLYWOOD
DUNCAN
BENJAMIN
RIVERS
EAST MILL
WOODS
MUNICIPAL BALL PARK
SE
ORANGEBURG COUNTY FAIR ASSOCIATION
CAROLINA VENEER
TO SANTEE
CITY OF ORGB.


Champion INTERNATIONAL
ORANGEBURG, S.C
CORONA PARK
1002
CORONA APTS
PKWY.
NORTH BRENTWOOD
LAURA ST.
ROSEDALE DR.
NORTHWOOD DR.
SHERWOOD
GLORIA
BRENTWOOD
LAKESHORE DR.
GLENWOOD DR.
WILDWOOD
BRENTWOOD
WHITTAKER
FIVE CHOP RD.
301
CALHOUN
RUSSELL
SPRINKLE
595
78
LAWRENCE
CATHERINE
21
178
33
MYERS
HECKLE ST.
ANDREWS DEVELOPMENT
ROSEWOOD DR.
PINE VIEW
HODSON ST.
WOODBINE
ASHWOOD ST.
ALLEN ST.
1314
ALBERTSON
LAKESIDE ACRES
MELANIE
LAKE
OAK
NORTHWOOD
COPYRIGHT
MAINT SHOP
DIST. OFFICE

Please print or type with ELITE type (12 characters/inch) in the unshaded areas only

Form Approved OMB No. 158-S73016
GSA No. 0246-EPA-OT

EPA U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO. — Reference No. 3 — 00

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS: ~~U. S. PLYWOOD~~ PO BOX 1087 ORANGEBURG, SC 29115

III. LOCATION OF INSTALLATION: FIVE CHOP ROAD ORANGEBURG, SC 29115

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law (Section 3010 of the Resource Conservation and Recovery Act).

RE EPA/ AUG 20 1980 ENFORCEMENT

FOR OFFICIAL USE ONLY

COMMENTS

C

INSTALLATION'S EPA I.D. NUMBER	T/A	C	APPROVED	DATE RECEIVED (yr., mo., & day)
F SCD003342177	2	1		800816

I. NAME OF INSTALLATION

CHAMPION BUILDING PRODUCTS

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX

3

CITY OR TOWN	ST.	ZIP CODE
4		

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER

5

CITY OR TOWN	ST.	ZIP CODE
6		

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title)	PHONE NO. (area code & no.)
2 PRESLEY ROW MGR. ENV AFFAIRS	513-868-4261

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER

8 CHAMPION INTERNATIONAL CORPORATION

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)

F = FEDERAL
M = NON-FEDERAL

M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [X] A. GENERATION
- [ ] B. TRANSPORTATION (complete item VII)
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.: SCD000506170

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

I.D. – FOR OFFICIAL USE ONLY

W SCD003342177 2 1

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F005	F005				
7	**8**	**9**	**10**	**11**	**12**

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	**38**	**39**	**40**	**41**	**42**
43	**44**	**45**	**46**	**47**	**48**

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

- [X] 1. IGNITABLE (D001)
- [X] 2. CORROSIVE (D002)
- [ ] 3. REACTIVE (D003)
- [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
Fred K. Rigden	Fred Rigden, Operations Manager	8/15/80

EPA Form 8700-12 (6-80) REVERSE

Please print or type with ELITE type (12 characters/inch) in the unshaded areas only

Form Approved OMB No. 158-S79016
GSA No. 0246-EPA-OT

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.: ~~SCD000506170~~

I. NAME OF INSTALLATION: ~~U.S. PLYWOOD~~

II. INSTALLATION MAILING ADDRESS: PO BOX 1087, ORANGEBURG, SC 29115

III. LOCATION OF INSTALLATION: FIVE CHOP ROAD, ORANGEBURG, SC 29115

03023

RECEIVED EPA/REGION

NOV 24 1 00 PM

ENFORCE...

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DETACH

FOR OFFICIAL USE ONLY

COMMENTS

C 3

INSTALLATION'S EPA I.D. NUMBER	T/A C	APPROVED	DATE RECEIVED (yr., mo., & day)
F SCD003342177	2 1		801124

I. NAME OF INSTALLATION

CHAMPION BUILDING PRODUCTS

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX

3

CITY OR TOWN	ST.	ZIP CODE
4		

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER

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CITY OR TOWN	ST.	ZIP CODE
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NAME AND TITLE (last, first, & job title)	PHONE NO. (area code & no.)
2 PRESLEY RON MGR ENV AFFAIRS	513-868-4261

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER

8

DETACH

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)

F = FEDERAL
M = NON-FEDERAL

M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

- [X] A. GENERATION
- [ ] B. TRANSPORTATION *(complete item VII)*
- [ ] C. TREAT/STORE/DISPOSE — Delete
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only – enter "X" in the appropriate box(es))*

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER *(specify)*:

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [ ] A. FIRST NOTIFICATION
- [X] B. SUBSEQUENT NOTIFICATION *(complete item C)*

C. INSTALLATION'S EPA I.D. NO.: ~~SCD000506170~~

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

I.D. – FOR OFFICIAL USE ONLY

W S C D 0 0 3 3 4 2 1 7 7 2 1

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

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1	2	3	4	5	6
F005	F005				
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- [X] 1. IGNITABLE (D001)
- [X] 2. CORROSIVE (D002)
- [ ] 3. REACTIVE (D003)
- [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
[signature]	Fred Rigden Operations Manager	11-19-80

Reference No. 4

EPA Notification of Hazardous Waste Site

United States Environmental Protection Agency Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name: Ozzie Fogle, Manager, Finishes Development
Street: Five Chop Road, P. O. Box 1087
City: Orangeburg, State: SC Zip Code: 29115

B Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site: Champion International Corporation Building Products Division
Street: Five Chop Road, P. O. Box 1087
City: Orangeburg County: Orangeburg State: SC Zip Code: 29115

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Fogle, Ozzie, Manager, Finishes Development
Phone: (803) 534-2632

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): Unknown To (Year):

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste: Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☒ Organics
2. ☐ Inorganics
3. ☒ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste: Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☒ Other (Specify) Prefinished wash solvents from manufacturing of paneling.

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261).

Specific Type of Waste: EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

Form Approved
OMB No. 2000-0138

Notification of Hazardous Waste Site	Side Two

Waste Quantity:

Place an X in the appropriate boxes to indicate the facility types found at the site.

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☒ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☐ Other (Specify) ______

Total Facility Waste Amount

cubic feet 300 (estimated)

gallons ______

Total Facility Area

square feet 300 (estimated)

acres ______

Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment.

☐ Known ☐ Suspected ☐ Likely ☒ Non

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessir hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

Description of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the

Name Richard C. Wigger, Vice President

Street One Champion Plaza

City Stamford State CT Zip Code 06921

☒ Owner, Present
☐ Owner, Past
☐ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other

EPA

POTENTIAL HAZARDOUS WASTE SITE
TENTATIVE DISPOSITION

REGION	SITE NUMBER

File this form in the regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (EN-335); 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME Champion Intern'l Corp. Building Products Division	B. STREET Five Chop Road, PO Box 1087

C. CITY Orangeburg	D. STATE S.C.	E. ZIP CODE 29115

II. TENTATIVE DISPOSITION

Indicate the recommended action(s) and agency(ies) that should be involved by marking 'X' in the appropriate boxes.

RECOMMENDATION	MARK 'X'	ACTION AGENCY: EPA	STATE	LOCAL	PRIVATE
A. NO ACTION NEEDED -- NO HAZARD	X				
B. INVESTIGATIVE ACTION(S) NEEDED *(If yes, complete Section III.)*					
C. REMEDIAL ACTION NEEDED *(If yes, complete Section IV.)*					
D. ENFORCEMENT ACTION NEEDED *(If yes, specify in Part E whether the case will be primarily managed by the EPA or the State and what type of enforcement action is anticipated.)*					

E. RATIONALE FOR DISPOSITION

F. INDICATE THE ESTIMATED DATE OF FINAL DISPOSITION *(mo., day, & yr.)*	G. IF A CASE DEVELOPMENT PLAN IS NECESSARY, INDICATE THE ESTIMATED DATE ON WHICH THE PLAN WILL BE DEVELOPED *(mo., day, & yr.)*

H. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE *(mo., day, & yr.)*
[illegible]	803-758-5681	10-28-83

III. INVESTIGATIVE ACTIVITY NEEDED

A. IDENTIFY ADDITIONAL INFORMATION NEEDED TO ACHIEVE A FINAL DISPOSITION.

B. PROPOSED INVESTIGATIVE ACTIVITY *(Detailed Information)*

1. METHOD FOR OBTAINING NEEDED ADDITIONAL INFO.	2. SCHEDULED DATE OF ACTION *(mo, day, & yr)*	3. TO BE PERFORMED BY *(EPA, Contractor, State, etc.)*	4. ESTIMATED MANHOURS	5. REMARKS
a. TYPE OF SITE INSPECTION				
(1)				
(2)				
(3)				
b. TYPE OF MONITORING				
(1)				
(2)				
c. TYPE OF SAMPLING				
(1)				
(2)				

Continued From Front

III. INVESTIGATIVE ACTIVITY NEEDED and PART B - PROPOSED INVESTIGATIVE ACTIVITY (Continued)

d. TYPE OF LAB ANALYSIS				
(1)				
(2)				
e. OTHER (specify)				
(1)				
(2)				

C. ELABORATE ON ANY OF THE INFORMATION PROVIDED IN PART B (on front & above) AS NEEDED TO IDENTIFY ADDITIONAL INVESTIGATIVE WORK.

D. ESTIMATED MANHOURS BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES	1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES
a. EPA		b. STATE	
c. EPA CONTRACTOR		d. OTHER (specify)	

IV. REMEDIAL ACTIONS

A. SHORT TERM/EMERGENCY STRATEGY *(On Site & Off-Site)*: List all emergency actions needed to bring site under immediate control, e.g., restrict access, provide alternate water supply, etc. See instructions for a list of Key Words for each of the actions to be used in the space below.

1. ACTION	2. EST. START DATE (mo,day,&yr)	3. EST. END DATE (mo,day,&yr)	4. ACTION AGENCY (EPA, State, Private Party)	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

B. LONG TERM STRATEGY *(On Site & Off-Site)*: List all long term solutions, e.g., excavation, removal, ground water monitoring wells, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. EST. START DATE (mo,day,&yr)	3. EST. END DATE (mo,day,&yr)	4. ACTION AGENCY (EPA, State Private Party)	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

C. ESTIMATED MANHOURS AND COST BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES	1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES
a. EPA			b. STATE		
c. PRIVATE PARTIES			d. OTHER (specify)		

MEMO-letter

S.C. DEPT. OF HEALTH & ENVIRONMENTAL CONTROL
EQC - Bureau of District Services
2600 Bull Street
Columbia, S.C. 29201

RECEIVED
MAY 1 5 1987
S. C. DEPT. OF HEALTH AND ENVIRONMENTAL CONTROL
Bureau of Solid & Hazardous Waste Management

To JOHN CAIN
SOLID + HAZ. WASTE

Date 14 MAY 87

Subject US PLYWOOD, FORMERLY CHAMPION INTERNATIONAL, FORMERLY US PLYWOOD.
ORANGEBURG, S.C.

— ATTACHED IS A COPY OF A MEMO YOU MIGHT NEED. WHAT IS THIS SITE'S STATUS? THEY ARE ON MY LIST. I LOOKED AT THE OLD DRUM SITE YEARS AGO AND WROTE IT UP IN AN INSPECTION REPORT. I THINK THIS WAS BEFORE THE DISTRICT INITIATED P.A. FORMS. ANY INFORMATION YOU HAVE WOULD BE APPRECIATED.

J M Burckhalter
AIKEN EQC

FOLD AT (–) TO FIT DRAWING BOARD ENVELOPE #EW10P

Reference No.5

MAR 15 1983

POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

EPA

REGION: 4

SITE NUMBER (to be assigned by Hq)

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II (*Preliminary Assessment*). File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (*EN-335*); 401 M St., SW; Washington, DC 20460.

ATION

ET (or other identifier)

TE | E. ZIP CODE | F. COUNTY NAME

2. TELEPHONE NUMBER

SCD003342177 ORANGEBURG
CHAMPION INTERNATIONAL CORP
FIVE CHOP RD
ORANGEBURG SC 29115
FOGLE, OZZIE, MGR/FIN DE* 8035342632

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☑ 5. PRIVATE ☐ 6. UNKNOWN

I. SITE DESCRIPTION: Landfill

"103-C NOTIFICATION" DATE: 810609
EARL WILLIAMS
PHONE: 803-758-5544

K. DATE IDENTIFIED (mo., day, & yr.)

2. TELEPHONE NUMBER

(complete this section last)

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☑ 4. NONE ☐ 5. UNKNOWN

B. RECOMMENDATION

☑ 1. NO ACTION NEEDED (*no hazard*)

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 4. SITE INSPECTION NEEDED (*low priority*)

C. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
Dorothy Browning	803-758-5681	9-14-82

III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE (*Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.*)

☑ 2. INACTIVE (*Those sites which no longer receive wastes.*)

☐ 3. OTHER (*specify*): (*Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.*)

B. IS GENERATOR ON SITE?

☐ 1. NO ☑ 2. YES (*specify generator's four-digit SIC Code*):

C. AREA OF SITE (*in acres*): ?

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES
1. LATITUDE (deg.—min.—sec.) 2. LONGITUDE (deg.—min.—sec.)

E. ARE THERE BUILDINGS ON THE SITE?

☐ 1. NO ☑ 2. YES (*specify*):

Continued From Front

IV. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION	✓	1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS. TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify):		

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED

Waste was organics and solvents from Champion Int. Corp.
Champion International has interim status authorization
Orangeburg County Landfill is permitted Domestic Waste Permit 051.

V. WASTE RELATED INFORMATION

A. WASTE TYPE

- [x] 1 UNKNOWN
- [x] 2 LIQUID
- [ ] 3. SOLID
- [ ] 4. SLUDGE
- [ ] 5. GAS

B. WASTE CHARACTERISTICS

- [x] 1 UNKNOWN
- [ ] 2. CORROSIVE
- [ ] 3. IGNITABLE
- [ ] 4 RADIOACTIVE
- [ ] 5 HIGHLY VOLATILE
- [x] 6 TOXIC
- [ ] 7 REACTIVE
- [ ] 8 INERT
- [ ] 9 FLAMMABLE
- [ ] 10. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No.

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT	AMOUNT	AMOUNT ?	AMOUNT	AMOUNT	AMOUNT ?
UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE	UNIT OF MEASURE
'X' (1) PAINT, PIGMENTS	'X' (1) OILY WASTES	'X' (1) HALOGENATED SOLVENTS	'X' (1) ACIDS	'X' (1) FLYASH	'X' (1) LABORATORY, PHARMACEUT.
(2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMLTG. WASTES	(4) MUNICIPAL
(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER (specify):
			(6) CYANIDE	(6) OTHER (specify):	
			(7) PHENOLS		
			(8) HALOGENS		
			(9) PCB		
			(10) METALS		
			(11) OTHER (specify)		

Continue On Page 3

Continued From Page 2

V. WASTE RELATED INFORMATION (continued)

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of hazard).

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

Prefinish~~ing~~ed wash solvents from manufacturing of paneling
Waste had been sent to Orangeburg County landfill which is permitted &

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	D. DATE OF INCIDENT (mo., day, yr.)	E. REMARKS
A 1. NO HAZARD	X			
2. HUMAN HEALTH				
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY				
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER				
8. CONTAMINATION OF SURFACE WATER				
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL				
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL				
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS				
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER (specify):				

 Continue On Reverse

Continued From Front

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

- [ ] 1 NPDES PERMIT
- [ ] 2 SPCC PLAN
- [ ] 3. STATE PERMIT *(specify)*:
- [ ] 4 AIR PERMITS
- [ ] 5 LOCAL PERMIT
- [ ] 6 RCRA TRANSPORTER
- [x] 7 RCRA STORER
- [ ] 8 RCRA TREATER
- [ ] 9 RCRA DISPOSER
- [ ] 10. OTHER *(specify)*: Champion International Corp. is an Interim Status Facility.

B. IN COMPLIANCE?

- [ ] 1. YES
- [ ] 2 NO
- [x] 3 UNKNOWN

4 WITH RESPECT TO *(list regulation name & number)*:

VIII. PAST REGULATORY ACTIONS

- [x] A. NONE
- [ ] B. YES *(summarize below)*

IX. INSPECTION ACTIVITY *(past or on-going)*

- [x] A NONE
- [x] B. YES *(complete items 1,2,3, & 4 below)*

1. TYPE OF ACTIVITY	2 DATE OF PAST ACTION (mo., day, & yr.)	3 PERFORMED BY: (EPA/State)	4. DESCRIPTION
inspection	Monthly	State	Orangeburg County Landfill
			inspected monthly.

X. REMEDIAL ACTIVITY *(past or on-going)*

- [x] A. NONE
- [ ] B. YES *(complete items 1, 2, 3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment *(Section II)* information on the first page of this form.

Orangeburg Co. Landfill

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

October 31, 1983

Mr. Kurt J. Penny
Champion International Corporation
Route 1, Box 97A-1
Swansea, SC 29160

Reference No. 6

RE: Champion International
Disposal Request
Orangeburg County

Dear Mr. Penny:

This office hereby grants approval for disposal of your empty triple rinsed herbicide, pesticide, fungicide, insecticide containers, and your 1.5 milligram plastic sheets on a continuing basis at the Orangeburg County Landfill. Approval is contingent upon the following conditions:

1) Prior approval be obtained from the appropriate landfill officials.
2) Precautions must be taken to prevent leakage or spillage during transport.
3) Disposal is limited to the wastes and amounts described in your October 13, 1983 correspondence.
4) The material be covered upon disposal with a suitable soil cover or with refuse which receives daily soil cover.
5) Coordinate the disposal with the district solid waste consultants, James Burckhalter (648-9561) and Ed McDowell (758-4415).
6) Any adverse effects to the receiving landfill will nullify this approval.

If you have any further questions concerning this matter, please do not hesitate to contact this office.

Sincerely,

J. Rick Grant
Waste Engineering Section
Bureau of Solid and Hazardous
Waste Management

JRG:als
cc: Landfill Official
James Burckhalter, Lower Savannah
Ed McDowell, Central Midlands

Route 1 Box 37 A 1
Swansea, South Carolina 29160
803 568-2436

Champion
Champion International Corporation

RECEIVED
OCT 14 1983
S. C. DEPT. OF HEALTH AND
ENVIRONMENTAL CONTROL
Bureau of Solid & Hazardous
Waste Management

October 13, 1983

Mr. Joseph R. Grant
Waste Identification & Evaluation
Dept. Health & Environmental Control
2600 Bull Street
Columbia, SC 29201

Mr. Grant:

On May 24, 1982 I requested a letter of approval for disposal of chemicals and chemical containers in the Orangeburg Co. landfill. On October 26, I requested approval for disposal of additional chemical containers. The lists of chemicals and chemical containers in the above letters are to be considered current usage lists. Being that the letters of approval were issued in 1982, I would like to know if they are still in effect.

I would also like to amend the above lists with more chemical containers, upon approval. The additional containers are as follows:

Oust herbicide jugs (1 gal. size)
Poast herbicide jugs (1 gal. size)
Fusilade herbicide jugs (1 gal. size)
Bravo herbicide jugs (2 gal. size)
Blazer herbicide jugs (1 gal. size)
Benlate fungicide bags (2 lb. size)
Manzate fungicide bags (3 lb. size)
Lorsban insecticide can (5 gal. size)

Once again, all plastic, glass, and metal containers have been triple rinsed.

Another item I would like to dispose of at the Orangeburg County landfill is a total of approximately 960,000 sq. ft. of 1.5 mil plastic. This plastic is used as a ground cover in conjunction with the injection of methyl bromide into the soil. Since this plastic comes in direct contact with methyl bromide vapors, are we required to have prior approval before disposal of the plastic? If approval is necessary, then I request the plastic be added to the above list for approval. If you have any questions, please contact me at 568-2436 or the above address.

Thank you,

Kurt J. Penney

Kurt J. Penney

KJP:lm

March 8, 1983

Mr. Kurt Penny
Champion International Corp.
Rt. 1, Box 97 A-1
Swansea, SC 29160

RE: Solid Waste Disposal of Empty Cans into Orangeburg County Landfill

Dear Mr. Penny:

This office hereby grants approval for disposal of your empty Herbicide, Insecticide, Fungicide and Miticide containers as detailed in your March 4, 1983 letter at the Orangeburg County Landfill. Approval is contingent upon the following conditions:

1. All containers meet DHEC definition of empty.
2. Prior approval be obtained from the appropriate landfill officials.
3. Precautions must be taken to prevent leakage or spillage during transport.
4. Disposal is limited to the wastes and amounts described in your March 4, 1983 correspondence.
5. The material be covered upon disposal with a suitable soil cover or with refuse which receives a daily soil cover.
6. Coordinate the disposal with the district solid waste consultant, James Burckhalter (telephone 648-9561).
7. Any adverse effects to the receiving landfill will nullify this approval.

If you have any further questions concerning this matter, please do not hesitate to contact this office.

Sincerely,

Joseph R. Grant
Waste Identification & Evaluation
Bureau of Solid & Hazardous Waste Management

JRG:bes

cc: James Burckhalter
Ed McDowell

803 568-2436

Champion
Champion International Corporation

October 26, 1982

Mr. Rick Grant
Dept. Health & Environmental Control
2600 Bull Street
Columbia, S. C. 29201

Dear Mr. Grant:

On May 24, 1982 I submitted a request of approval for disposal of empty pesticide containers. This letter was approved via your letter of June 28, 1982. We are now using other chemicals as well and I submit the following list for approval for disposal of the empty pesticide containers at the Orangeburg County landfill. The plastic, glass, and metal containers have been triple rinsed. The containers are:

Modown herbicide drum (30 gal. size)
Modown herbicide bags (10 lb. size)
Sutan herbicide can (5 gal. size)
Revenge herbicide bag (30 lb. size)
Kelthane miticide jars (1 gal. size)

In addition to the containers, I would like approval to dispose of 2-170 g. bags of Devrinol herbicide.

Thank you,

Kurt J. Penney

Kurt J. Penney
Nursery Technician

KJP/lm

803 568-2436

Champion
Champion International Corporation

May 24, 1982

Mr. Rick Grant
Dept. Health & Environmental Control
2600 Bull Street
Columbia, S. C. 29201

Mr. Grant:

I would like to request a letter of approval for disposal of chemicals and chemical containers in the Orangeburg County Landfill. These chemicals are used throughout the summer and fall. If possible, I would like for this letter to be effective thru October 1982. The plastic and metal containers have been triple rinsed and the chemicals are in sealed 55 gal. drums. A list of the chemicals and containers follows:

Chemicals:
- 1-55 gal. drum Furadan/clay slurry
- 1-55 gal. drum w/25 gal. Arasan 42-S

Containers:
- Furadan insecticide jugs (1 gal. size)
- Goal herbicide jugs (1 gal. size)
- Roundup herbicide jugs (1 gal. size)
- Aatrex herbicide jugs (2½ gal. size)
- Ridomil fungicide jugs (1 gal. size)
- Basagran herbicide jugs (1 gal. size)
- Bayleton fungicide bags
- Captan fungicide bags

Sincerely,

Kurt J. Penney

Kurt J. Penney
Nursery Technician

KJP/lm

Swansea, South Carolina 29
803 568-2436

Champion
Champion International Corporation

May 24, 1982

Mr. Rick Grant
Dept. Health & Environmental Control
2600 Bull Street
Columbia, S. C. 29201

Mr. Grant:

I would like to request a letter of approval for disposal of chemicals and chemical containers in the Orangeburg County Landfill. These chemicals are used throughout the summer and fall. If possible, I would like for this letter to be effective thru October 1982. The plastic and metal containers have been triple rinsed and the chemicals are in sealed 55 gal. drums. A list of the chemicals and containers follows:

Chemicals:
~~1-55 gal. drum Furadan/clay slurry~~ (not disposed of)
~~1-55 gal. drum w/25 gal. Arasan 42~~-S (not disposed of)

Containers:
Furadan insecticide jugs (1 gal. size)
Goal herbicide jugs (1 gal. size)
Roundup herbicide jugs (1 gal. size)
Aatrex herbicide jugs (2½ gal. size)
Ridomil fungicide jugs (1 gal. size)
Basagran herbicide jugs (1 gal. size)
Bayleton fungicide bags
Captan fungicide bags

Sincerely,

Kurt J. Penney

Kurt J. Penney
Nursery Technician

KJP/lm

RECEIVED
MAY 28 1982
Bureau of ... Waste ...

Route 1 Box 27 A
Swansea, South Carolina 29160
803 568-2436

Timberlands Division

RECEIVED
MAR 7 1983
S. C. DEPT. OF HEALTH AND
ENVIRONMENTAL CONTROL
Bureau of Solid & Hazardous
Waste Management

Champion
Champion International Corporation

March 4, 1983

Mr. Rick Grant
Dept. Health & Environmental Control
2600 Bull Street
Columbia, SC 29201

Dear Mr. Grant:

I would like to request a letter of approval for disposal of chemical containers in the Orangeburg County Landfill. We will plan periodic disposal trips consisting of no more than thirty (30) chemical containers per trip. The majority (85%) of these containers will be either the 1 gal. size jug or the 5 lb. bag size. All glass, plastic, and metal containers will be triple rinsed.

A list of the chemicals follows:

A) Herbicides
1) Goal 2E
2) Roundup
3) Aatrex 4L
4) Basagran
5) Sutan
6) Velpar
7) Treflan
8) Modown WP
9) Vernam 7E

B) Insecticides
1) Dursban Granular
2) Furadan 4F
3) Cygon 2E
4) Diasinon 4E

C) Fungicide
1) Ridomil 2E
2) Bayleton WP
3) Captan 50 WP
4) Benlate
5) Manzate D

D) Miticide
1) Kelthane EC

Thank you,

Kurt J. Penney

Kurt J. Penney
Nursery Technician

KJP:lm

Reference No. 7

South Carolina Department of Health and Environmental Control

RECEIVED
AUG 31 1981
S. C. DEPT. OF HEALTH AND ENVIRONMENTAL CONTROL
Bureau of Solid & Hazardous Waste Management

COMMISSIONER
Robert S. Jackson, M.D.
2600 Bull Street
Columbia, S. C. 29201

J.T.B.
File

August 27, 1981

Mr. Ozzie Fogle
Champion Building Products
P. O. Box 1087
Orangeburg, South Carolina 29115

Dear Mr. Fogle:

There are problems concerning disposal of your company's wastes at the Orangeburg County Landfill. Our district records indicate that your company has DHEC approval for 50 drums per month of cured urea glue sludge to be disposed of at the Orangeburg County Landfill.

The approval letter states that transport is to be in a manner to prevent spillage or leakage. The approval letter further states that the glue sludge must be disposed of in sealed drums.

The drum pit at the landfill has been a matter of concern for some time. On numerous occasions I have talked with county officials regarding proper control of wastes entering the pit. The situation has not improved.

Your personnel are dumping drums in the pit. Many drums are not sealed. Some do not even have lids. Other drums open when they fall into the pit. The result is waste leaking from drums in the pit and even on the ground around the pit. On one occasion, a white milky liquid, which I was told came from your plant, was in the pit.

On Thursday, August 20, 1981, David Hughes of DHEC observed a Champion Building Products truck enter the landfill with open drums. Liquid in the drums was sloshing out and leaking during transport. The material, described as a brown oily liquid, was dumped into the drum pit. Except on very rare occasions, liquids are not approved for disposal at landfills.

It is my recommendation that the county stop utilizing the drum pit. A better approach would be a trench. Your trucks could then back down to the end of the trench. The drums could then be unloaded, not dropped, from the truck and placed in an orderly arrangement for the county to cover. This would end the spillage problem. Drums, of course, must be sealed.

I would suggest that you investigate the brown oily liquid observed by David Hughes on August 20, 1981. If the material does not have DHEC approval for disposal, it would be a violation of our regulations. If the material proved to meet our criteria to identify hazardous waste, it would be a serious violation.

Under our present system of approving non-hazardous industrial wastes for disposal at county landfills, DHEC exercises a large measure of trust in the expertise and integrity of the industrial community. If this trust were damaged through poor management of wastes or willful violation, it would be in the best interests of DHEC and the industrial community to make certain that it did not recur.

While I feel certain it will not be necessary, we could require scheduled disposal under DHEC supervision with samples being taken to identify the waste. It is also possible that approval for local disposal could be disallowed.

I think you can realize that it is in both our interests to properly manage these wastes. I can be reached for assistance at 648-9561 in Aiken at work, or 259-7520 at home.

Sincerely yours,

James M Burckhalter
James M. Burckhalter
Environmental Quality Manager
Lower Savannah District

JMB:maj

cc: Ted Buchanan, Enforcement
Jim Ullery, Solid Waste
Jack Kendall, Solid Waste
George P. Nelson, Jr., Lower Savannah
Gary Smoak, Orangeburg County Administrator
Fulton Livingston, Orangeburg County Solid Waste Mgr.

Reference No. 8

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

E. KENNETH AYCOCK, M.D., M.P.H., COMMISSIONER
J. MARION SIMS BUILDING—2600 BULL STREET
COLUMBIA, SOUTH CAROLINA 29201

September 17, 1974

MEMORANDUM

TO: Charles M. Kelly, Manager
Industrial Waste Section

FROM: Randall E. French
Industrial Solid Waste Consultant

RE: Inspection of closed dump
U.S. Plywood Corporation
Orangeburg County

On September 13, 1974, Capers Dixon and I contacted Mr. Larry Evans, Plant Manager of U.S. Plywood, to observe what progress had been made in cleaning up the plant's old dump site. We observed several piles of wood wastes and a few 55-gallon drums. Mr. Evans stated that the clean up should be completed by the end of the year. Vegetation has almost taken over the entire area. All plant wastes are now being taken to the County Landfill, and the present condition of this old dump site does not pose any threat of environmental pollution.

REF:dah

cc: Capers Dixon

Reference No. 9

South Carolina
Department of
Health and
Environmental
Control

COMMISSIONER
Robert S. Jackson, M.D.
2600 Bull Street
Columbia, S.C. 29201

MEMORANDUM

DATE: June 21, 1982

TO: Ed Gibson
Solid & Hazardous Waste

FROM: James M. Burckhalter Jms Burckhalter
Lower Savannah District EQC

SUBJECT: Champion International, Orangeburg County, formerly U. S. Plywood Corp., Interim status inspection, SCD 003 342 177

On June 16, 1982, George Nelson and the writer visited the referenced plant.

The plant is probably only a generator of hazardous waste. Central office records should already show them as only a generator, according to correspondence which is attached. Some of this correspondence was supplied by Champion.

Waste streams generated include solvent "finish" waste, solvent adhesive waste, waste oil and cured urea-formaldehyde glue waste.

Several hazardous waste facilities have been utilized. These include SCSCA Services, ABCO, and M & J Solvents in Georgia. Manifests for both South Carolina and Georgia appeared to be in order. Waste oil is collected by Harold Mason. Mr. Mason's permit status is unknown.

Champion's storage area consisted of a concrete pad and metal roof. Drums were labeled and had the necessary information. Champion does not store over ninety days. Labels supported this. Drums seemed in good condition.

The plant's contingency plan was difficult to assess. A one-page sheet listing phone numbers for plant personnel to handle emergencies during the day and night was available. This sheet is supplied to all plant personnel. It was suggested that the DHEC 24-hour number be added. A contingency plan covering all materials utilized at the plant was not available at the time of my visit. It had been sent to Ted Groszkiewicz (513-868-6660) at their Hamilton, Ohio, corporate headquarters for review. The plan had not yet been returned.

Record keeping practices seemed acceptable. Manifests, quarterly reports and other records were readily available.

The plant has three Air permits: O/P-38-135, O/P-38-136 and O/P-38-151.

Re: Chamption International
(formerly U. S. Plywood Corp.)
Orangeburg County

This writer is not aware of past regulatory action regarding solid or hazardous waste.

Several problems were noted which will have to be addressed. Champion has an on-going approval for fifty (50) drums per month of cured urea-formaldehyde glue sludge to be disposed of at the Orangeburg County Landfill. Since this writer had not observed the material at the landfill in several months, the question was raised as to how the material was being handled. The cured urea-formaldehyde glue sludge is being burned in their wood/fuel fired boilers. District Air personnel were not aware of this practice.

Fly ash from the wood fired boilers is currently dumped on plant property. Champion was instructed to obtain approval for landfilling or have the disposal area permitted.

Correspondence dated September 17, 1974, in the district files stated that Randall French and Capers Dixon investigated to determine if the plant's old dump site had been closed. Based on this information, the closed site was visited.

The old dump site is directly behind the plant. The area is very overgrown. Several old drums were sitting among the overgrowth. Several drums contained solids of unknown composition.

Ozzie Fogle, Plant Manager, stated that an attempt was made several years ago to obtain information as to what had been disposed of at the old dump. Mr. Fogle stated that older employees remembered that 35-40 drums of filler paste material were buried at the site. It was stated that this information was submitted on a "federal report" at the time of the investigation.

Mr. Fogle was informed to investigate the site further <u>and</u> definitely determine what was in the drums which were visible. Middle Pen Branch is directly behind the site and might possibly indicate any problems if carefully investigated.

Assuming the sludge burning and fly ash do not involve hazardous wastes, the plant is probably in compliance regarding hazardous waste <u>generation</u>. The ash disposal, sludge incineration and the old dump will require further investigation.

JMB:maj

Attachments

Copy H. Birch
E. Foyke

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

RECEIVED
OCT 13 1980
ENVIRONMENTAL AFFAIRS
SOLID_WOOD-EAST

IN RE: Orangeburg, South Carolina

Dear Sirs:

This office has received your application for a permit under R.61-79, of the South Carolina Hazardous Waste Management Regulations. Your application is currently being evaluated. When staff has finished its review you will be notified in writing as to the tentative decision reached by the Department as required by Section (F) of R.61-79.10, Treatment, Storage, and Disposal Facility Permits. As specified in the hazardous waste regulations, and the State Hazardous Waste Management Act, facility owner/operators who have:

(1) provided timely notification as required in R.61-79.2, Notification of Hazardous Waste Activity, and

(2) filed a permit application as required by Section (C) and/or (D) of R.61-79.10, Treatment, Storage, and Disposal Facility Permits;

have authorization to continue operation of a hazardous waste management facility under R.61-79.10B of the Hazardous Waste Management Regulations and 44-56-60 of the 1976 South Carolina Code of Laws (as amended) provided they comply with the following:

(1) R.61-79.3 dealing with manifests, recordkeeping, and reporting;

(2) R.61-79.4 dealing with spills; and

(3) R.61-79.5 dealing with financial responsibility.

During the period while your application is being evaluated, personnel from this Division may perform routine inspections to determine compliance with the above.

Thank you for your cooperation in this matter. If you have any questions, please feel free to call.

Sincerely,

Hartsill W. Truesdale, P.E., Director
Solid and Hazardous Waste
Management Division

HWT:CAM:dhs

cc Ed Clem
Fred Kuyden

CERTIFIED MAIL

Champion
Champion International Corporation

Mr. Hartsill W. Truesdale, P.E., Director
Solid and Hazardous Waste Management Division
2600 Bull Street
Columbia, South Carolina 29201

January 8, 1981

Re: South Carolina Hazardous
Waste Permit Application

Dear Mr. Truesdale:

On September 26, 1980, a completed Hazardous Waste Facility Permit application was submitted to the State of South Carolina for our Champion Building Products' Orangeburg, South Carolina facility. At that time the facility was designated as a generator engaged in the treatment, storage, and disposal of hazardous waste.

After further review of the amount of hazardous waste generated at this facility and the methods of disposal used, it was determined that all hazardous waste would be removed from the plant site within the 90 day period as referenced in the State and Federal Hazardous Waste Regulations governing generators of hazardous waste. On November 12, 1980, a second notification was filed with the EPA designating this facility as a generator of hazardous waste.

We received a letter from your office on October 13, 1980, stating that our application had been received and was being evaluated. At this time we would like to request that the present state application be amended to show the status of the facility as that of a hazardous waste generator only.

Sincerely,

Jim Thompson

Jim Thompson, Assistant Manager
Eastern Environmental Affairs
Solid Wood Products

mg

cc: Larry Fields
Chris Julian
Fred Rigden

Reference No. 10

MEMO-letter

S.C. DEPT. OF HEALTH & ENVIRONMENTAL CONTROL
EQC - Bureau of District Services
2600 Bull Street
Columbia, S.C. 29201

RECEIVED
MAY 15 1987
S. C. DEPT. OF HEALTH AND
ENVIRONMENTAL CONTROL
Bureau of Solid & Hazardous
Waste Management

To JOHN CAIN
SOLID + HAZ. WASTE

Date 14 MAY 87

Subject US PLYWOOD, FORMERLY CHAMPION INTERNATIONAL, FORMERLY US PLYWOOD.
ORANGEBURG, S.C.

ATTACHED IS A COPY OF A MEMO YOU MIGHT NEED - WHAT IS THIS SITE'S STATUS? THEY ARE ON MY LIST. I LOOKED AT THE OLD DRUM SITE YEARS AGO AND WROTE IT UP IN AN INSPECTION REPORT. I THINK THIS WAS BEFORE THE DISTRICT INITIATED P.A. FORMS. ANY INFORMATION YOU HAVE WOULD BE APPRECIATED

JM Burckhalter
AIKEN EQC

MEMO-letter

S.C. DEPT. OF HEALTH & ENVIRONMENTAL CONTROL
EQC - Bureau of District Services
2600 Bull Street
Columbia, S.C. 29201

To US PLYWOOD FORMERLY CHAMPION INTERNATIONAL   File Date 14 MAY, 1987
ORANGEBURG, S.C.   Subject

MR. DREW HODGES OF GA-PACIFIC (404-521-4812) PHONED. MR HODGES STATED THAT GA-PACIFIC WAS SERIOUSLY CONSIDERING ACQUIRING THE ABOVE PLANT. HE NOTED THAT US PLYWOOD UTILIZED M+J SOLVENTS. HE WANTED TO KNOW, IF THERE HAD EVER BEEN ANY PROBLEMS WITH M+J SOLVENTS. I STATED THAT MY ONLY DEALINGS WITH M+J SOLVENTS WAS TO SEE THEIR NAME ON MANIFESTS AT PLANTS I VISIT. I HAD NEVER OBSERVED M+J SOLVENTS WHILE PICKING UP WASTE, ETC.

I THEN ASKED MR HODGES IF HE WAS AWARE OF THE DRUM SITE AT THE REAR OF THE PROPERTY AND THAT THE PLANT WAS LISTED ON

CONTINUED

MEMO-letter

S.C. DEPT. OF HEALTH & ENVIRONMENTAL CONTROL
EQC - Bureau of District Services
2600 Bull Street
Columbia, S.C. 29201

To US PLYWOOD FILE

Date 14 MAY 87

Subject

PAGE TWO

- WHAT IS NOW THE CERCLA LIST? HE WAS NOT AWARE OF THIS.
I SUGGESTED HE CALL JOHN CAIN FOR MORE INFORMATION.

JM Burckhalter
AIKEN EQC

Reference No. 11 ERTIFIED MAIL

Champion International Corporation

Knightsbridge
Hamilton, Ohio 45020

October 1, 1980

South Carolina Department of Health
and Environmental Control
Solid and Hazardous Waste
Management Division
2600 Bull Street
Columbia, South Carolina 29201

Re: South Carolina Hazardous Waste
Regulation, Permit Application

Gentlemen:

On Monday, September 29, 1980, our Orangeburg, South Carolina plant forwarded to your office three copies of their Hazardous Waste Facility Permit Application along with the necessary map and a copy of the EPA Notification of Hazardous Waste Activity form.

At the time of the mailing, the original copy was mistakenly mailed to our Hamilton, Ohio office. We are returning the original copy for your files and apologize for any inconvenience this may have caused.

Sincerely,

Jim Thompson, Assistant Manager
Eastern Environmental Affairs
Solid Wood Products

mg

Enc. 2

[illegible]
[illegible] AND HAZARDOUS WASTE
MANAGEMENT DIVISION
[illegible]00 BULL STREET, COLUMBIA, SC 29201
[illegible]one: (803) 758-5681

HAZARDOUS WASTE FACILITY PERMIT APPLICATION

Facility Name	Facility Contact	Title	Phone
Champion Building Products	Ozzie Fogle	Industrial Finishing Lab Mgr.	(803) 354-2632

	Street Number	City	State	Zip Code	County
Facility Address: Five Chop Road		Orangeburg	SC	29115	Orangeburg
Facility Mailing Address: P.O. Box 1087		Orangeburg	SC	29115	Orangeburg

Operator's Name	Operator's Contact	Title	Phone
Fred W. Rigden	Ozzie Fogle	Industrial Finishing Lab Mgr.	(803) 534-2632

	Street Number	City	State	Zip Code	County
Operator's Address: Five Chop Road		Orangeburg	SC	29115	Orangeburg
Operator's Mailing Address: P.O. Box 1087		Orangeburg	SC	29115	Orangeburg

Owner's Name	Owner's Contact	Title	Phone
Champion International Corp.	Ron Presley	Mgr. Environmental Affairs	(513) 868-4261

	Street Number	City	State	Zip Code	County
Owner's Address: 1 Landmark Square		Stamford	CT	06921	
Owner's Mailing Address: 1 Landmark Square		Stamford	CT	06921	

[illegible]. Type of Permit(s) Being Applied For

- ☐ Treatment (specify) ____
- ☐ Disposal (specify) ____
- ☒ Storage ☐ Temporary ☐ Experimental ☐ Emergency
- ☐ Other (specify) ____

11. Status of Applicant

- ☒ Corporation ☐ Partnership ☐ Proprietorship
- ☐ Government ☐ Not-for Profit Corporation
- ☐ Other (specify) ____

[illegible] Site Status

- ☒ Owned ☐ To Be Leased for ____ Years**
- ☐ To Be Purchased* ☐ Rented or to be Rented**
- ☐ Presently Leased, Lease Expires ____**

* Enclose Copy of Option to Buy or other agreement
** Enclose Copy of Rent or Lease Agreement

13. Facility Status

- ☒ Existing Operation ☐ Proposed Operation
- ☐ To Be Modified ☐ Under Construction
- ☐ Other (specify) ____

[illegible] Zoning

a. What is the present zoning of the site? None

b. Is zoning compatible with the intended use of the site? Yes

c. If a zoning change is needed, what should new zoning be? N/A

H[illegible] 1989 (5/80)

5. Existing Environmental Permits	Type of Permit and Issuing Body		Permit No.	Date of Issue	Date of Expiration
Yes	Air	State	0/P-38-151	07/06/76	07/06/81

16. Facility Description

Provide a topographic map of the area showing the boundaries of the property for a distance of one mile beyond. The map should show the locations of all wells, springs, and surface water bodies in the area and describe the physical and man-made characteristics of the boundaries. The scale of the map shall have one inch (2.54 cm.) equal to no more than 200 feet (61 meters) and have a contour interval not greater than 10 feet (3.05 meters).

17. Latitude (deg.-min.-sec.) 33° 28' 0"   Longitude (deg.-min.-sec.) 81° 13' 0"

18. ON THE SHEET PROVIDED List: Each type of hazardous waste the facility intends to handle (e.g. wastewater treatment sludge containing chromium); the hazardous characteristics for each waste (e.g. toxic); the action to be taken with the waste at the facility (e.g. disposal); the quantity of each waste estimated to be handled annually, in tons per year (e.g. 30 tons); and the technique to be used in handling each waste (e.g. earth burial). Additional copies of the provided sheet may be made and used if needed.

19. Certification

I hereby certify (or declare) that all data submitted in conjunction with this Application are true to the best of my knowledge.

Date completed Application was mailed or delivered to the Department 9/29/80
month day year

Operator's Signature [signature]

Owner's Signature Ron D. [signature]

Designing Engineer's Signature ____________ Registration No. ______

FOR DEPARTMENT USE ONLY

Date Application Received	Date Letter Sent to Verify Receipt	Public Notice Issued	Public Hearing	Renewal Date
/ /	/ /	/ /	/ /	/ /

RECEIVED
OCT 8 1980
S. C. DEPT. OF HEALTH AND
ENVIRONMENTAL CONTROL
SOLID WASTE

Tentative Decision

Final Decision

Hazardous Waste Materials Description	Hazardous* Characteristics	Action**	Annual Quantity Handled Amount Tons/Yr	Hazardous Waste Handling Technique
Acrylic Topcoat Filler Paste	Ignitable (IX E D001)	S	6.0	SCA Services
Prefinish Wash Solvent	Ignitable & Toxic	S	48.0	M & J Solvent Co.
Vinyl Wash Line Solvent	Ignitable & Toxic	S	20.7	M & J Solvent Co.
Oil & Grease	Ignitable	S	1.0	Harold Mason Oil Reclaimer
Glue Pit Sludge & Water Base Paint	-	S	157	County Landfill

*For each hazardous waste listed give the hazardous waste characteristic(s) which identifies the waste as hazardous. These characteristics are Ignitable, Corrosive, Reactive, Toxic, and Listed. Refer to R.61-79.1 of the Hazardous Waste Management Regulations for more detail.

**Use the code which best indicates the action intended to be taken with the waste.
S - Store T - Treat D - Dispose

Reference No. 12

"Rite in the Rain"

WEATHERPROOF

LEVEL

NOTEBOOK NO. 311

E4-865

F4-88[illegible]

[illegible]

[illegible]

Tulsa [illegible]

B[illegible] K REQUIREMENTS
S[illegible] - JANUARY 6, 1988

[illegible]NGUAGE SHOULD BE FACTUAL

fr[illegible]t cover of the Logbook:

[illegible]ite Name, Site Location, Project

a[illegible] made using ink.

[illegible]tement referencing Equipment
[illegible]og.

c[illegible] Work Plan, Study Plan, and
[illegible]cussion and distribution to
w[illegible] team member signatures.

[illegible]ate each page. Project Manager
[illegible] and sign off on each logbook

e[illegible] drawn through error. Each
s dated/initialed.

[illegible]eather conditions. Provide
[illegible]cription and remarks.

[illegible] changes from project
[illegible]cuments.

te [illegible]etch with sample locations.

[illegible] calibration and pre-
c[illegible]cks of equipment.

[illegible]erence to Sampling Field Sheets
s[illegible]pling informaiton.

[illegible] log by completing the
[illegible]formation at the end of the

[illegible]esentative is on hand to
[illegible]pt for samples an entry to
[illegible] be placed in the logbook.

5/3/88

The Work Plan, Study Plan, and Safety Plan have been distributed and discussed

[illegible] Project Manager
Kent Hankinson [signature]
Robert Hutcheson [signature]
[illegible] [signature]
David [illegible] [signature]
[illegible] [signature]
[illegible] Carr [signature]

See equipment location log for serial numbers and equipment used.

Lawrence P. E. Otwell
Senior Environmental Engineer
Wood Products Manufacturing Division
(Eastern Area)
Res: (404) 461-6781

GP

Georgia-Pacific Corporation

133 Peachtree St. N.E. (30303)
P.O. Box 105603
Atlanta, GA 30348
(404) 521-5081

6/1/88 1115 Arrived on site Plan to do a walk around with Mr Lawrence Otwell. The sky is clear and it is hot, approx 95°

Me, Mr Lawrence Otwell, Tom B [illegible] and an additional employee that has been with the company for many years, SB walked the boundaries of the property as best we could.

First they showed me a storage shed where drums were kept before they were shipped, supposedly within 90 days. It was covered and had a cement floor. There are still a few drums hanging around. The cement has only been there a short time.

Next we walked back to the northeast side of the property. See blueprint of the facility. There is assorted piled up metal equipment with interspersed drums. SB described a trench to me that is approximately 25 feet

in length and 7.5 feet deep. There are buried drums in the trench. Behind that area is [illegible] [illegible] [illegible] [illegible] the [illegible] [illegible] [illegible] [illegible] buried drums [illegible] appears that [illegible] [illegible] [illegible] [illegible] further back on property [illegible] [illegible] [illegible] like a semi circle of drums & trash along the [illegible] [illegible] of the property. There is [illegible] [illegible] [illegible] on the ground [illegible] [illegible] [illegible] of trash [illegible] dumped [illegible] [illegible] [illegible] [illegible] the [illegible] [illegible] [illegible] there was no [illegible] [illegible] [illegible] was disposed of on the property.

There was a log pond at one time which they stored logs until they were [illegible]. It was approximately 3 acres in size [illegible] only a small amount of water [illegible] it looked as if it had been filled in [illegible] [illegible] SB, no hazardous waste was deposited [illegible] as far as they know.

02

Teresa Dennigan 6/1/88

Teresa [illegible] 6/1/88

Next we went to the blow ~~and~~ cleaning pond. The boiler blows out unwanted minerals etc into this pond via a pipe. A chemical is used to keep the minerals in suspension so they won't corrode the boiler. Magnesium and calcium build up and therefore they use phosphates to prevent this. It would lower the efficiency as it would act as insulate.

There is abundant wildlife living in the pond. I saw several turtles and frogs. There is a single pipe coming from the buildings into the blow ~~down~~ pond. Tom says that there is no run off for this pond. It only recedes by evaporation.

The gentlemen from Georgia Pacific were very helpful. They tried to give us any information they had and suggestions ~~for~~ about exactly what had occurred at the site.

Teresa Dwyer 6/1/88

6/2/88 0800 Arrived on site

Kent and Robert calibrating the HNu and preparing to take a background sample on northwest corner of the property.

The weather is sunny & hot expected to get to 90's, about 78° now.

OVA

0830 ~~[illegible]~~ calibrated. Rest of the team arrived. PH meter was also calibrated

@ 1230 Drums of used up toluene were deposited in the tree...

There are four tanks containing MEK & Toluene sludges located on hill. They are not on concrete. The concrete near the loading pad was laid in the past couple of years. There are pipes leading from the tanks to the building. Thinking that there may be some underground spillage. Stuff in tanks is just sitting there not being used.

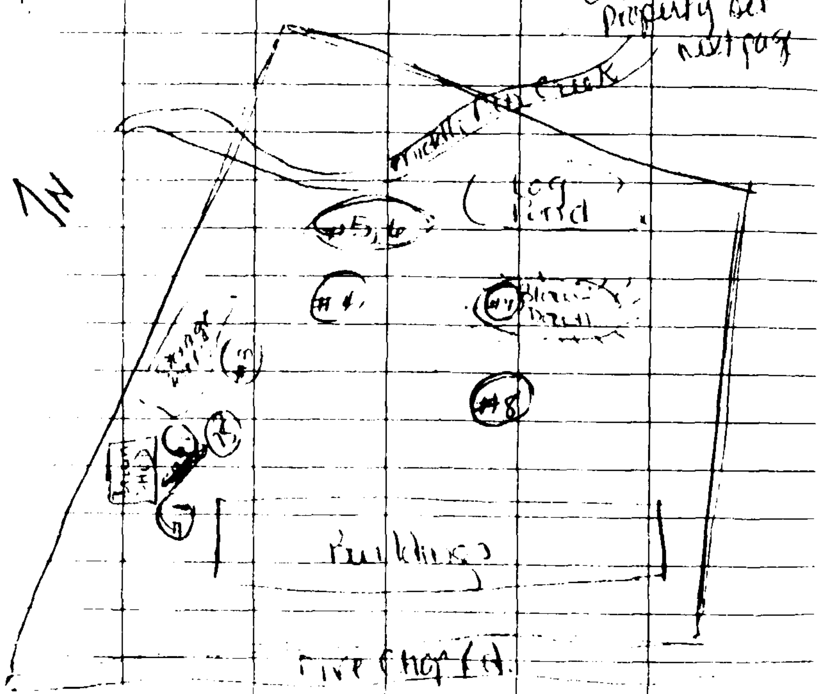
6/2/88

Teresa Dwyer

6/2/88 1100 Setting up to sample.

1115-1225 was spent collecting surface soil, subsurface soil, sediment and water samples. For detailed sampling information and field measurements see sampling field sheets.

creek crosses property see next page



Map is not drawn to scale

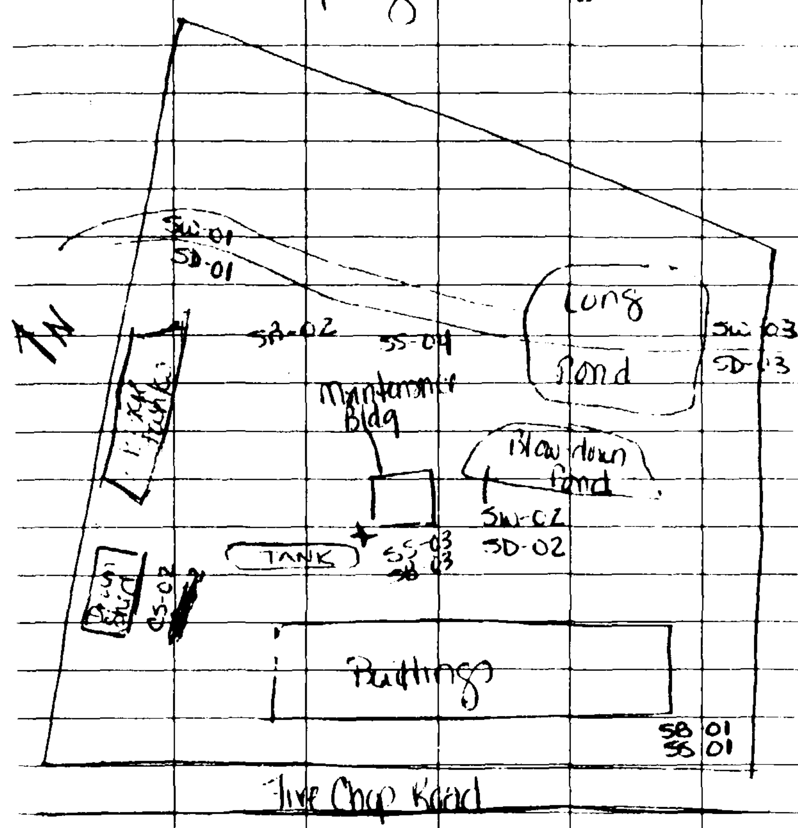
Photo log

6/2/88

[illegible] Sawyer

6/2/88

Sampling locations



This map is not to scale.

Teresa Sawyer

6/2/88

Sampling was conducted almost as planned. The [illegible] were...

a composite surface soil sample (C1-SS-03) was taken around the drum storage area.

a subsurface soil sample C1-SB-03 was taken by the maintenance building on north side where machinery was cleaned (in study plan called the [illegible] water basin area)

All subsurface samples were taken at 2-3 feet

1/1/88	Summary of sampling field sheets
1010	C1-SS-01 - Background surface soil
[illegible]	C1-SW-01 - Duplicate surface water
[illegible]	C1-SB-01 - Background subsurface soil
[illegible]	C1-SD-01 - Duplicate sediment
1095	C1-SS-03 Composite Surface soil
[illegible]	C1-SW-05 - surface water on Penn Creek
[illegible]	C1-SD-05 - Sediment on Penn Creek
[illegible]	C1-SS-03 - surface soil
[illegible]	C1-SB-03 - subsurface soil
[illegible]	C1-SW-0[illegible] surface water
[illegible]	C1-SD-0[illegible] sediment
[illegible]	C1-SB-0[illegible] - subsurface soil

[signature]
1/1/88

1/1/88		
1230	C1-SS-04	surface soil

Teresa [illegible]
1/1/88

NUS CORPORATION AND SUBSIDIARIES | **TELECON NOTE**

CONTROL NO.	DATE: August 30, 1988	TIME: 1010
DISTRIBUTION:		
BETWEEN: Clerk	OF: City Hall-Orangeburg	PHONE: (803) 534-2525
AND: Teresa Sawyer of NUS Corporation		

DISCUSSION:

I called City Hall and asked for the current population of Orangeburg, and the clerk told me it is 15,000.

NUS CORPORATION AND SUBSIDIARIES		TELECON NOTE
CONTROL NO.	DATE: March 23, 1988	TIME: 1430
DISTRIBUTION: Champion International F4-8801-06		
BETWEEN: Thomas F. Berry, Owner	OF: Berry Drilling Company	PHONE: (803) 593-4027
AND: Jerri Higgins, NUS Corporation Jeh		

DISCUSSION:

Mr. Berry was called to discuss wells in the Orangeburg area. His company has drilled many wells outside the Orangeburg city limits. He estimated that almost 100% of the persons outside the city limits used groundwater for drinking water. The deepest wells that his company drilled are 800 feet; the shallowest are 100 feet. The maximum depth for a residential well is 200 feet. When drilling residential wells, limestone and sand are the predominant rock types found. The limestone is first encountered about 50 feet below land surface, under a layer of sand, clay and gravel.

Reference No. 16

GROUND-WATER RESOURCES
OF
ORANGEBURG COUNTY, SOUTH CAROLINA

By George E. Siple

BULLETIN NO. 36

SOUTH CAROLINA STATE DEVELOPMENT BOARD

DIVISION OF GEOLOGY

1975

Prepared by the
U. S. GEOLOGICAL SURVEY
in cooperation with the
SOUTH CAROLINA STATE DEVELOPMENT BOARD

GROUND-WATER RESOURCES

INTRODUCTION

Orangeburg County, with an area of 1,105 square miles, is the second largest county in the State. Located in the south-central part of South Carolina it is also the second largest county in the Coastal Plain province, within which it is wholly contained.

Inasmuch as the county extends across at least one major physiographic boundary and is underlain by two most productive and most important aquifer systems within the State, it is uniquely representative of almost all ground-water regimes within the Coastal Plain. The only major ground-water problem not prevalent here is salt-water contamination, (although brackish water does exist in the buried crystalline rocks) inasmuch as it is almost centrally located between the Fall Line and the Atlantic Coast.

Historically (originally) the predominant use of ground water was to meet agricultural or domestic needs. However, with the rapid growth of towns and cities, and the accelerated change from an agricultural to an industrial economy, the need has shifted towards supplying larger amounts of ground water for municipal and industrial use.

Purpose and Scope

The purpose of this report is to present the available data on the ground-water resources of the county, along with such evaluation and interpretation of these data as seem warranted.

Inasmuch as ground water constitutes an important, if not the most important, mineral resource of the area (and one that is replenishable), it was originally planned to include a description of the general nature and occurrence of this resource in the mineral report. The present report has been prepared largely from data obtained previously by the author during the course of a general areal study of the South Carolina Coastal Plain. These data were supplemented by some additional information on wells obtained from drillers and from other sources. No test-well data nor adequate down-hole geophysical, hydraulic, or chemical data that are normally requisite to an informative evaluation of ground-water resources were available for use in this report. Thus, it is not intended to represent an intensive description of the occurrence, distribution and utilization of ground water in this county, but it is hoped it will indicate the primary dimensions of these parameters, including the inadequacy of the present data. It is expected that a more complete or intensive study will be made at some future time.

Previous Investigations

No previous reports have been prepared specifically on the ground-water resources of Orangeburg County. Cooke (1936) listed the depth, diameter, and water level of several wells throughout the county, and included chemical analyses of water from 7 wells and a spring (Tables 5 and 6).

In a report on ground-water conditions through the state, Siple (1946) described the general geology and hydrology of the area and included a table of well data for 10 municipal wells, with chemical analyses of water from 4 wells. Some water-quality and water-level data for this area are given in a report by Stock and Siple (1969).

An appraisal of the county's present water-supply sources and facilities along with projected plans for future water development was given in a report prepared by the consulting firm of Lyles, Bissett, Carlisle and Wolff (1969). This report, entitled, "Orangeburg County Comprehensive Water and Sewage Plan" summarizes the discharge data and chemical quality of the major streams. It also includes geologic and geohydrologic data, excerpted largely from Siple (1957, 1947). It identifies one of the areas most susceptible to pollution of water supplies as that in the cavernous limestone area near Lake Marion.

Acknowledgments

The author acknowledges the cooperation and assistance of several persons, agencies, and well drillers, or well-drilling companies who contributed information on well depths, yields, descriptive logs, and other data which were of con-

GENERAL HYDROLOGIC ENVIRONMENT

Climate

Orangeburg County is characterized by a humid, temperate climate (Cfa in the Koppen classification). The mean monthly air temperature at Orangeburg during the period 1935-1964 (U. S. National Weather Service, NOAA, 1965) was 64.2°F. The mean annual precipitation (Table 1) at Orangeburg for the same period was 46.37 inches. The wettest month is August, with an average of 5.80 inches of rainfall and the driest month is November with 2.39 inches. The summer is warm and humid, characteristic of this part of the country. It has an average of 4 days with 100 degrees or higher temperature. The highest temperature recorded in Orangeburg was 107°F on July 25, 1952. The lowest temperature ever recorded was 6°F, on December 13, 1962.

A substantial part of the hurricane season occurs in July and August although the greatest frequency of hurricanes occurs in September. However, most of the summer precipitation is derived from late afternoon and evening thundershowers which account for 33 percent of the annual rainfall.

The fall season is the most pleasant time of the year, with moderate temperatures and a minimum amount of rainfall — 21 percent of the annual total. The winter is usually rather mild with the rainfall comprising about 22 percent of the annual total. The winter rainfall is generally of a more uniform type, dispersed over wide areas.

Spring is the season when tornadoes and severe local storms occur. Fourteen tornadoes were recorded in Orangeburg County during the 53 years preceding 1964. Spring precipitation accounts for 24 percent of the annual total.

Drainage

All of the major streams traversing Orangeburg county originate in the Coastal Plain and represent consequent streams in a mature stage, draining to the southeast (see fig. 7c). The Santee River drains into Lake Marion and so transmits water from two streams, the Congaree and the Wateree; although they originate in the Piedmont, they are confluent in the Coastal Plain to form the Santee. Significant stretches of the major stream valleys exhibit asymmetric transverse profiles, particularly those of the Santee and South Fork Edisto systems. Tributaries on the left bank of the major streams are longer and more numerous than those on the right bank. Tributaries on the left banks of the North and South Edisto Rivers have a parallel to sub-parallel pattern whereas those in the immediate vicinity of Orangeburg have nearly a radial pattern.

An area of approximately 75 square miles of Orangeburg County drains into the Santee River or Lake Marion. An area of about 300 square miles drains into Four-Hole Swamp and about 730 square miles are drained by the North and South Edisto Rivers. Near Branchville, in the southern part of the county, the North and South Edisto Rivers join to form the Edisto River. Four-Hole Swamp and the Edisto River become confluent beyond the southeastern boundary of the county.

The relation between surface streams and ground water is discussed in the section on well yields.

Geomorphic and Stratigraphic Setting

The range of geologic and geomorphic environments present within Orangeburg County bears a significant role in the occurrence, distribution, movement, and quality of its ground waters. The sequence of stratigraphic units and their water-bearing characteristics are indicated in the columnar section (Table 2).

The county is roughly three times as long as it is wide and elongated generally in a northwest-southeast direction, positioned in the south-central part of the Coastal Plain province (fig. 2)

TABLE 1. CLIMATOLOGICAL DATA FOR ORANGEBURG COUNTY AND VICINITY (FROM U. S. NATIONAL WEATHER SERVICE, NOAA, CLIMATOLOGICAL SUMMARY 1965)

Station	Years of Record	(Temperature (°F)) Average Daily Max.	Average Daily Min.	Mean Annual	(Precipitation (Inches)) Mean Annual	Greatest Daily	Date
Orangeburg	1935-1964	76.0	52.4	64.2	46.37	7.80	9/48
Blackville . . . . (Barnwell County)	1935-1964	76.0	52.7	64.4	45.93	7.53	9/59

TABLE 2. STRATIGRAPHIC UNITS AND THEIR WATER-BEARING CHARACTERISTICS, ORANGEBURG COUNTY AND VICINITY*

(The stratigraphic sequence was agreed upon originally by Pooser and the author, for inclusion in the joint report. The suggested new term, Orangeburg Group has been approved by the Geologic Names Committee, U. S. Geological Survey).

SYSTEM	SERIES	FORMATION
CRETACEOUS (?) CRETACEOUS	UPPER	PEEDEE FORMATION (Navarro age)
		BLACK CREEK FORMATION (Taylor age)
		ELLENTON FORMATION (Austin age)
CRETACEOUS	UPPER	TUSCALOOSA FORMATION
	LOWER (?)	UNNAMED UNIT
TRIASSIC (?)		UNNAMED UNIT
PRECAMBRIAN TO PERMIAN		PRE-TRIASSIC CRYSTALLINE ROCKS UNDIFFERENTIATED

*(Siple and Pooser, 1975)

DESCRIPTION AND WATER-BEARING CHARACTERISTICS

Greenish gray glauconitic, quartzose sand interbedded with lenses of sandy marl or limestone and thick dark gray to black clay. The formation in the eastern part of the Coastal Plain is not very permeable but in Orangeburg County it appears to have greater permeability and is possibly thicker than might be expected (400 ft). Large-diameter wells developed in this unit should yield several hundred gpm.

Gray, medium to coarse grained, glauconitic, phosphatic quartzose sand interbedded with gray to black lignitic, pyritic clay. Sands in the Ellenton are of a coarser grain and contain selenite. They might be hydraulically connected with the Tuscaloosa Formation. Insufficient number of wells to define potential yields, but the unit is considered a major aquifer. Water is characteristically high in dissolved iron and sulfate.

Tan, buff, red and light gray quartzitic to arkosic, micaceous, medium to coarse sand and gravel, interbedded with red, purple, brown and gray clay or kaolinitic clay. Thin beds of dark gray to black clay occur in the basal half of the formation separating the formation into two or three aquifers. Aquifer tests in adjacent Barnwell County indicate values up to 400,000 gpd/ft for transmissivity and a storage coefficient of about $3x10^{-4}$. The Tuscaloosa Formation is the most important aquifer in the State, with well yields up to 3,600 gpm. There are only four wells in Orangeburg County developed in this unit, and their average yield is about 1,500 gpm. The water is very low in dissolved solids and has a low pH. Some waters are high in dissolved iron, oxygen and sulfate.

Clastic fanglomerates and conglomerates consisting mainly of red and brown claystone, siltstone and sandstone with a few black shales and scattered gray calcareous nodules. In some basins the sediments are interbedded with basalt flows and have been intruded by sills and dikes and diabase. Extremely low hydraulic conductivity is characteristic of these rocks. They occur only in the subsurface and their water quality is very poor, having a hardness of more than 5,000 mg/l and a chloride content exceeding 6,000 mg/l.

Foliated mixtures of hornblende gneiss, quartz-feldspar gneiss, chlorite schist, quartzite and phyllite with veins of calcite and pink zeolites. Water occurs and moves through interlacing fractures very fine in diameter that transmit virtually no water or through wider fractures which yield several gpm to wells. However, most of the water is high in dissolved solids. It is a sodium-sulfate type and not usable for drinking or most industrial purposes. The water is brackish, but not saline.

TABLE 2. STRATIGRAPHIC UNITS AND THEIR WATER-BEARING CHARACTERISTICS, ORANGEBURG COUNTY AND VICINITY (continued)

SYSTEM	SERIES				FORMATION
QUATERNARY	PLEISTOCENE TO HOLOCENE				SURFICIAL DEPOSITS
TERTIARY	PLIOCENE (?)				UNNAMED UNIT
	MIOCENE	UPPER			DUPLIN FORMATION
		MIDDLE			HAWTHORN (?) FORMATION
		LOWER			
	OLIGOCENE				COOPER MARL
	EOCENE	UPPER	ORANGEBURG GROUP	Jackson Age	BARNWELL FORMATION
		MIDDLE		Claiborne Age	McBEAN FORMATION; Congaree Formation; Warley Hill Formation; SANTEE LIMESTONE
		LOWER			BLACK MINGO FORMATION (Wilcox and Midway age)
	PALEOCENE				UNNAMED UNIT (Midway age)

DESCRIPTION AND WATER-BEARING CHARACTERISTICS

Red, gray and white poorly sorted clayey quartzose and arkosic sand and gravel. The deposit is of minor importance as an aquifer, as it generally occurs above the water table.

Tan, red and gray silt, sand and gravel, stained with iron oxide and associated with buff to brown silty clay. It has been referred to locally as "high-level" gravel, comprising the upper part of deposits equivalent to the Citronelle Formation. Because it is only a few tens of feet thick and positioned mainly above the water table, it has no significance as an aquifer.

Buff to yellow, arenaceous, fossiliferous clay or marl with interbedded white to gray quartzose sand with numerous shells or shell hash. Sand and shell transmit water in moderate amounts but thin deposits afford only small yields to wells. Clayey beds act as confining bed layer.

Tan, reddish-purple and gray compact sandy clay with some included gravel and limonite nodules; small amounts of water available to dug wells.

Olive-green foraminiferal marl with lenses of quartzose sand. Functions primarily as a confining bed but in coastal areas the sands contain brackish water.

Tan, red, brown, yellow, buff and mustard-colored sands interbedded with red, tan, green, ochre and purple clays and some white calcareous clays. The most permeable beds in the group are the quartzose sands in the Congaree and McBean Formations. Data from aquifer tests in an adjoining county indicate hydraulic conductivity values ranging from 200 to about 1,000 gpd/ft^2, transmissivity values of 50,000 to 100,000 gpd/ft and a storage coefficient of about 2×10^{-4}. Yields of 6-inch wells range from 50 to 400 gpm. The water is acidic and high in iron. The Santee Limestone, a white to gray, highly fossiliferous, cherty, glauconitic and dolomitic limestone, is probably the second most productive aquifer in the county. Yields of 8 to 10-inch wells are recorded up to 700 gpm. The water is moderately hard to hard.

Fine light gray to yellow sands and sugary sandstone or bioclastic limestone interbedded with gray shale or fuller's earth overlying dark gray to black pyritiferous, lignitic shales containing numerous macrofossils and leaf impressions. Insufficient data to indicate range of well yields but probably moderate and less than those from clastics in the Orangeburg Group. Water is likely to be acidic and high in dissolved iron.

Physiographically, it is divided into at least two major and distinctive topographic provinces: the Upper Coastal Plain, occupying the northwestern part of the county and the Lower Coastal Plain, comprising the southeastern part. Nearly two-thirds of the county lies within the Lower Coastal Plain.

The two physiographic provinces are separated by the Citronelle Escarpment (Doering 1960), a southeast-facing scarp extending across the county from southwest to northeast (see fig. 4). Above the scarp, to the northwest, the topography is typified by moderate to high relief ranging from 250 to 420 feet above sea level. The upland plateaus are characterized by broad interfluve areas, dissected by relatively narrow, deep valleys cut by a normally dendritic surface drainage. This area comprises part of the Aiken Plateau, as described by Cooke (1936, p. 9). The Surry Scarp, at an altitude of about 100 ft, crosses the southeastern part of the county between Lake Marion and Four-Hole Swamp.

Beneath the Upper Coastal Plain lie mostly unconsolidated, but in part consolidated, deposits of sand, gravel, buhrstone, and clay of Early Cretaceous to Pleistocene age. The most permeable aquifers in this stratigraphic section include the sand and gravel beds within the Tuscaloosa[1] and Ellenton Formations, the sand and possibly limestone beds in the Peedee Formation, the sands within the Black Creek Formation, the Black Mingo Formation and the sand beds in the Orangeburg Group. Those of the latter are confined largely to the Barnwell, McBean, and Congaree Formations.

Water-table conditions prevail in the uppermost or shallowest aquifer(s), principally those in the Barnwell and McBean Formations within the Orangeburg Group. Some perched water bodies also occur in these units. Artesian conditions prevail for the most part in all deeper or older aquifers within the stratigraphic section. The water-table aquifers are recharged directly by rainfall throughout the region and discharge is effected locally by ground water moving from topographically higher areas down the hydraulic gradients to areas along nearby surface streams or lakes. Where the upland plateaus in the Upper Coastal Plain are deeply dissected, comparatively deep static water levels occur in wells screened in the deeper aquifers. An additional factor in the occurrence of deep static water levels is the comparatively high permeability of these sand and gravel aquifers, which facilitates acceleration of rapid ground-water drainage following a period of heavy rainfall.

The artesian aquifers are recharged by precipitation in areas several miles to the northwest in topographically higher areas in adjacent Aiken and Lexington Counties and by leakage through overlying younger beds in Orangeburg County. Some of the artesian water is discharged into the North Edisto River in the northwestern part of the county, but probably a large percentage of the water from deep (Cretaceous) artesian aquifers discharges by moving down the hydraulic gradient in a generally southeastern direction to points in the lower Coastal Plain and beyond.

Definitive description of the potentiometric surface of the Cretaceous aquifers in the Upper Coastal Plain is not possible at this time because only a few wells are known to be developed in these aquifers, and these are all located in one small area. Similarly, owing to the lack of sufficient data, it was not possible to construct piezometric or structure-contour maps for any of the aquifers or formational units throughout the county. In lieu of this more definitive interpretation, depths to the water table and the piezometric surface are given in Tables 3 and 3a.

From the toe of the scarp and extending southeastward to the lower boundary of the county, the area is characterized by a flat almost featureless plain comprising the Lower Coastal Plain. Altitudes here range from about 220 feet above mean sea level at the toe of the scarp to about 74 feet above mean sea level in the lowermost or southeastern areas. The toe of the scarp is nearly coincident with the up-dip limit of the Santee Limestone, a white to gray calcarenite and calcirudite of Eocene (middle Claiborne) age. Cooke and MacNeil (1952) indicated the presence of the Castle Hayne Limestone (of late Claiborne age) overlying the Santee, near the southeastern end of the county. However, owing to the fact that the two limestones are very difficult to differentiate in the field, the entire limestone section of middle Eocene age is referred to in this report as the Santee Limestone. There is a distinct possibility that additional thinner beds of limestone occur in the subsurface within deposits of Paleocene, early Eocene, or Cretaceous age.

[1]See note under Tuscaloosa Formation.

TABLE 3. RECORDS OF WATER WELLS IN ORANGEBURG COUNTY, S. C.

WELL NUMBER OR-	OWNER AND/OR LOCATION	DRILLER	DEPTH (ft) Total	DEPTH (ft) Casing	DIAMETER (in)	GEOLOGIC FORMATION	WATER LEVEL Above (+) or Below Land Surface (ft)	WATER LEVEL Date	YIELD (gpm)	DRAWDOWN (ft)	TEMPERATURE (°F)	USE	REMARKS
1	Town of North, S. C.	J. R. Connolly	135	105	10	To	50	1-29-46	100			PS	Drilled 1944. Filled in.
1A	do	do	130		10	do	46.85	5-29-62	100		66	PS	Drilled 1946. C.A. Radiometric analysis. Unused.
2	do	do	125	95	10	do	38.08	10-28-61	100			PS	Unused-filled in.
2A	do	do	125±		10	do			100		66	PS	Drilled 1946. C.A. Radiometric analysis, June 1958; unused — filled in.
3	Town of Springfield, S. C.	do	138	138	8	do	35	Jan. 1946	200		61	PS	P.A.
4	do	do	100-120	8		do	35	do	200			PS	
5	Town of Norway, S. C.	do	250	250	10	To-Ts	ab. 40	Feb. 1946	125	25		PS	Water is high in dissolved iron.
6	Town of Branchville, S. C.	do	800		8	Kp-Kt	flows		60			PS	Drilled 1927. C.A.
7	do	do	120	100	6	Ts	10-15	Mar. 1946				PS	Drilled 1945.
8	Town of Holly Hill, S. C.	Va. Drl. & Well Co.	278		8	do	12	do	250			PS	Drilled 1935. 10 ft of screen.
9	do		278		8	do	12	do	250			PS	20 ft of screen.

Geologic formations are: To — Orangeburg Group; Ts — Santee Limestone; Tl — Black Mingo Formation and unnamed Paleocene Unit undivided; Kp — Peedee Formation; Ku — Black Creek and Ellenton Formations undivided; Kt — Tuscaloosa Formation; P.A. — partial chemical analysis; C.A. — complete chemical analysis; S.C. — specific capacity reported in gallons per minute per foot of drawdown; gpm-gallons per minute; TH — total hardness; Dom — domestic supply; Ind — industrial supply; Stk — used for stock; PS — public supply; Irr — irrigation supply; Mil — used for military base; S.S. — stainless steel (screen); screen settings in feet below land surface. In yield column, P = amount pumped, F = amount flowing under natural head, Ls — limestone; Sd — sand.

below land surface. In yield column, P = amount pumped, F = amount flowing under natural head, Ls — limestone; Sd — sand

TABLE 3. RECORDS OF WATER WELLS IN ORANGEBURG COUNTY, S. C. (continued)

WELL NUMBER OR-	OWNER AND/OR LOCATION	DRILLER	DEPTH (ft)		DIAMETER (in)	GEOLOGIC FORMATION	WATER LEVEL		YIELD (gpm)	DRAWDOWN (ft)	TEMPERATURE (°F)	USE	REMARKS
			Total	Casing			Above (+) or Below Land Surface (ft)	Date					
37	Town of North, S. C.	Heater	124	124	8	To	37	8-14-57	260	14		PS	Drilled 1957. Screens 95-103; 113-121. S.C. = 1.9.
38	USGS, SC-6, 2 mi. N. of Elloree	USGS	75	0	5	To-Ts						Obs	Test well drilled with power auger in Feb. 1958. Top of Santee Ls = 55 ft.
39	U. S. Air Force, North	Layne-Atlantic Co.	150			do						Mil	
40	Bowman, S. C.	Ackerman	350	347	10-8	do	flows	Feb. 1959	200	88+		PS	Drilled 1959. Screens 224-234; 334-344. S.C. = 2.3.
41	G. M. Norris, 1¾ mi. from Vance	Hughes	839			Kt						Dom	Drilled prior to 1925. Limestone from 35-169 ft.
42	Orangeburg, S. C.	do	200		8	Ts	+20	Feb. 1916	200			PS	Drilled 1916.
43	do	do	206		10	do	+20	June 1916	200			PS	Do.
44	do	do	192		8	do	+20	do	500	50		PS	Drilled in 1916. S.C. = 10.
45	Norway, S. C.	Layne-Atlantic Co.	160	146	6	To-Ts	25	July 1955	72	115		PS	Drilled 1955. Screen: 125-140. S.C. = 0.62.

Geologic formations are: To — Orangeburg Group; Ts — Santee Limestone; Tl — Black Mingo Formation and unnamed Paleocene Unit undivided; Kp — Peedee Formation; Ku — Black Creek and Ellenton Formations undivided; Kt — Tuscaloosa Formation; P.A. — partial chemical analysis; C.A. — complete chemical analysis; S.C. — specific capacity reported in gallons per minute per foot of drawdown; gpm-gallons per minute; TH — total hardness; Dom — domestic supply; Ind — industrial supply; Stk — used for stock; PS — public supply; Irr — irrigation supply; Mil — used for military base; S.S. — stainless steel (screen); screen settings in feet below land surface. In yield column, P = amount pumped, F = amount flowing under natural head, Ls — limestone; Sd — sand.

The Santee Limestone is overlain by a comparatively thin cover of sand, gravel, clay, and shell hash of Miocene, Pliocene (?), and Pleistocene age (fig. 3). These deposits constitute the Duplin Formation, an unnamed Pliocene (?) unit consisting of sand, clay, and gravel overlain by the terrace deposits of the Wicomico, Sunderland and part of the Coharie Formations as referred to by Cooke (1936, p. 8). Beneath the Santee Limestone are deposits of early Eocene to Late Cretaceous age. These include sand, gravel, clay, and limestone rock within the Warley Hill, Black Mingo, Peedee, Black Creek or Ellenton, and Tuscaloosa Formations. Each of these units contains permeable beds comprising one or more aquifers. Dark gray to black carbonaceous clays function as confining beds in this hydrologic system. The thickest and most permeable aquifers are composed of coarse sand and gravel contained within the Ellenton and Tuscaloosa Formations and medium to coarse sand in the Peedee Formation. The Santee Limestone constitutes the next most permeable aquifer in the stratigraphic section of this area. However, more wells are developed in the limestone than in the sands of Cretaceous age, largely because of economic factors. The shallow depth of the limestone and its greater cohesiveness and density require less drilling and a smaller amount of casing, thus permitting "open-hole" construction, that is, without the installation of screens or slotted casing. Otherwise these items would constitute an additional cost to the construction of a well.

A large number of publications have been written on the subject of limestone hydrology, therefore, an in-depth discussion will not be attempted in this report. Lyell (1845), Adams and Swinnerton (1937), Swinnerton (1942), Jordan (1950), Kaye (1957), Stringfield (1936, 1966), Stringfield and LeGrand (1966), LeGrand and Stringfield (1966), LaMoreaux and Powell (1963), Counts and Donsky (1963), Callahan (1964), and Siple (1960, 1967), described the mechanics of solution phenomenon in limestone terraces and the geometry of ground-water circulation associated with them.

As indicated above, the Santee Limestone has a comparatively thin cover of sand, clay, and shell hash. Subaerial erosion and solution during Pleistocene time and subsurface solution of the limestone has formed a paleokarst topography in some parts of the area, in particular the discharge area bordering the south shore of the Santee River and Lake Marion (fig 4). This area is characterized by numerous sinks, Carolina bays, and literally thousands of "*mini-bays*" — a designation given by the writer to mass concentrations of what appear to be Carolina bays of much smaller size than those heretofore described in the literature. A very intensive development of sinks, dolines, jamas and bays may be seen on the topographic map (particularly those shown on the Eutawville quadrangle) and aerial photos for the area between Eutawville and the eastern and southwestern boundaries of the county (Siple, 1960). Underground streams emerging from limestone caves or cave groups in this area drain into Lake Marion on the south shore. Collapsed dolines occur in several of these caves.

Probably a significant factor in the location and density of these sinks and caves was the action of the Coriolis force, which in the northern hemisphere, deflects southward flowing streams towards the right bank. This drift of the streams to the southwest cuts a steep bluff on this side of the stream and a slip-off or gentle slope on the northeast or left bank. The elevated position of the limestone on the southwest side, facilitates an accentuated solution process in the subsurface, producing the caves and tubular openings through which ground water is discharged to the main stream and its tributaries. On the left bank, much of the limestone is removed by erosion, leaving a much smaller number of visible sinks or subterranean streams.

On the southwestern boundary of the county, a somewhat similar geomorphic-hydrologic condition prevails, except that the South Fork Edisto River has not been incised as deeply into the underlying beds and Orangeburg County lies on the left bank, or slip-off slope, of this stream.

Carolina Bays

Numerous undrained shallow depressions, having an elliptical or ovate shape, whose major axes are alined in a northwest-southeast direction, and whose southeastern rims are comprised generally of a fine white sand, occur in the lower Coastal Plain section of Orangeburg County. These are characteristic of the "Carolina bays" originally described from their occurrence in the northeastern part of the S. C. Coastal Plain and southwestern part of the North Carolina Coastal Plain. The literature is too copious to reproduce here, but most of the references are included in: Glen (1895);

Cooke (1933, 1954); Melton and Schreiver (1933); Johnson (1942); and Thom (1970). Some bays can be identified on topographic maps, but the distinct nature of their outline and orientation are more easily recognized from aerial photographs (fig. 4).

Many hypotheses have been proposed to account for the origin of the bays but to date (1975) none appears to have unreserved acceptance in its explanation of all features exhibited by the bay structure. Their origin has been attributed to meteroic swarms, artesian springs, hollows found at the foot of terraces and between dunes, submarine scour, solution underlying calcareous material and subsequent subsidence at the top of the overlying beds, nests made by schools of fish moving their fins in unison, gyroscopic eddy currents, and deflation by prevailing winds and ponds formed in sand, oriented in the direction of maximum wind velocity. It is beyond the scope of this paper to comment on or refute these many hypotheses. The basic premises favored by the author are described in Siple (1960, 1697) so a detailed discussion will not be included here. However, inasmuch as the author believes the bay to have a distinct relation to the hydrologic regimen of the area and because some of his conclusions have been misquoted, some comment or explanation appears necessary. Thus, some references have quoted the author as subscribing to the solution theory of bay origin, whereas a more accurate designation would be that of a complex or multiple origin. Solution appears to have had some part in the distributional selectivity of the bay structure, but additional extraterrestrial forces (such as wind or the Coriolis force) must have had some part in the orientation, shape and formation of the bays' rims.

It is the author's belief that the Carolina bays are unique to the two Carolinas and contiguous parts of Georgia and that the rounded lakes alluded to as bays elsewhere around the world, such as those in Maryland, Alaska, Bolivia and Argentina, are definitely not Carolina bays. Deflation caused by prevailing winds would not appear to be the sole cause for formation of the bay or else there would be many more found on dune and terrace topography both within this state and all over the world. This is not to say that wind could not have been one of the formational agents, as indicated above.

The Carolina bays in Orangeburg County occur typically on the upland flat interfluve areas underlain by soluble calcareous deposits. As might be observed from Figure 3, they occur most prominently to the southeast of the Citronelle Escarpment. They are not entirely confined to areas southeast of this physiographic boundary but this is believed to be due to the fact that the landward extent of present or relict calcareous beds extends northwest of the boundary. The Santee Limestone coincides nearly but not exactly with this escarpment. Some of this limestone extends a short distance to the northwest of the Escarpment.

The major axes of the bays are alined approximately northwest-southeast. They have an ellipticity (ratio of short axis to long axis) ranging from 0.6 to about 0.7. They are characteristically developed on surfaces underlain at comparatively shallow depths by carbonate deposits: the Santee Limestone or sand and shell hash of the Duplin Formation (Siple, 1960). Their age in Orangeburg County is probably Pleistocene to Holocene although some appear to be older in areas closer to the Fall Line. The shoreline of the Duplin Formation is thought to coincide with the present position of the Citronelle Escarpment. The bays may be distinguished from the limestone sinks by their shape and orientation — the sinks are normally deeper than the bays, are much smaller in size, and are nearly conical or irregular in shape. As indicated above, in addition to the larger or normal sized bay, there also appear to be hundreds of much smaller sized, or "mini" bays occurring within the area. The major axes of the larger bays are 2 miles or more in length; whereas, those of the smallest may be as little as 100 feet in length (fig. 4).

The bays and also the sinks occur less frequently or not at all in those areas where the limestone is covered by a significant thickness of less permeable (marl or clay) material of middle Miocene age (Hawthorn (?) Formation) and, Oligocene age (Cooper Marl) or younger terrace deposits of Pleistocene to Holocene age. This overburden of finer material might also have facilitated the formation of a case-hardened layer on the surface of the buried limestone and thereby inhibited or retarded its solution by circulating ground waters. No bays were observed in this area on the alluvium bordering the major streams, although such occurrence is evident to the northeast, in Marion County.

Originally the bay was an undrained (surficially) depression and after some period of time, a layer of humate, silt and clay accumulated in developed in the alluvium of the major streams.

Most wells in the Lower Coastal Plain are developed in the Santee Limestone or its interbedded sands of middle Eocene age; in the underlying sands and limestone of the Black Mingo Formation and the underlying unnamed unit of Midway age; and the fine to medium quartz sands of the Upper Cretaceous Peedee and Black Creek Formations. No wells except the four described previously as in or near Orangeburg are thought to penetrate the lower parts of the Black Creek Formation or the Ellenton Formation in other parts of the county. However, it is the sands within these formations and deeper sands of pre-Austin age that have the greatest potential for future well development in the county.

WELL YIELDS AND GROUND WATER UTILIZATION

Recorded well yields in Orangeburg County range from 5 to 1,500 gpm. The yield of any single well depends upon its diameter, depth, construction, presence of nearby wells and the number and nature of aquifers from which it obtains water. Properly constructed and developed large (10-12 inch) diameter wells screened in 200 to 600 ft of sands of Cretaceous age can be expected to yield from 1,200 to 2,000 gpm or possibly more. Yields of this magnitude have already been obtained from wells in the vicinity of Orangeburg. Comparable yields can be expected in nearly all parts of the county from wells constructed in a similar manner. Exceptions might be wells located in the extreme northwestern part, where the Cretaceous sands are thinner and those located in the extreme southeastern part, where the hydraulic conductivity is likely to be lower. Thus sands and gravels in the formations of Cretaceous age constitute the most important and highest yielding aquifers in Orangeburg County, or in fact, throughout the State.

Yields as high as 600 to 700 gpm have been reported from wells developed in the Santee Limestone. Farther down basin, in Jasper County, single wells in this formation yield as much as 2,600 gpm. The limestone is not as porous nor as thick in Orangeburg County as it is lower in the basin, and thus its transmissivity is lower. The term limestone gives the connotation that a continuous thickness of solid rock is typical of the formation. However, this is not the case, inasmuch as in some areas the limestone is interbedded with sand, clay, or marl. If the interbedded sands or clayey sands have comparatively high hydraulic conductivities, then the well yield will probably be high; if not, the yield will be lessened in proportion to the amount of fine-grained clastic beds encountered in the well. In addition, the degree to which the limestone is interlaced with connected cavities or large pore spaces also affects well yield. That such a range in interconnected pore spaces does occur is evidenced by the fact that some closely spaced wells of similar construction and developed in the limestone do not obtain similar yields. As reported by Moore (1941, p. 35), water yields in test wells near Vance were lower than those farther down the Santee River near Eutaw Springs because of an apparent increase in porosity and number of cavities in this direction. One well near Eutaw Springs was reported as having been pumped at a rate of 600 gpm with no evidence of appreciable drawdown.

About 9 miles southeast of Eutaw Springs, a major crushed stone producer operates a limestone quarry near Cross, in Berkeley County, adjacent to the Orangeburg County line. In order to dry mine the limestone, it is necessary to dewater the infiltrating ground water and this is accomplished with 6 pumps, each having a capacity of 1,000 gpm. It is estimated that the 1973 rate of dewatering amounted to 4.32 mgd (million gallons per day).

Almost all figures listed in the "yield" column of Table 3 represent reported values. Usually the source is the driller, although in some instances it is the owner of the well. The yields reported for small diameter (2 to 4 inch) wells are not representative of potential yields that might reasonably be expected from properly constructed and developed larger-diameter wells. This applies specifically to wells OR-53 through OR-74 and OR-139 through OR-168 listed in the table, although other wells of small diameter also have little value as indicators of potential yield. In addition, information concerning drawdown for the reported yield is virtually non-existant for the older wells and for those of small diameter. Owing to deterioration of the well casing or screen, along with a possible lowering of the potentiometric level, the yields of many wells tend to decrease with time so that in general, the older the well, the less representative is the value indicated in the table for its yield. Some wells are finished with "open-hole" construction. These wells have their casing sealed in the first dense layer having continuous connection with the aquifer. Thus, in wells developed in the limestone the casing would be set either in the top of the limestone or in an impermeable clay or marl overlying the limestone. Developed in this manner the well has no screens or slotted casing set opposite the aquifer. In this type of well, the yield tends to decrease with age because of the movement of smaller sized grains toward the uncased section of the hole, causing it to fill in, or because the walls of the well itself cave in, due to side-wall pressure.

Another method of approximating ground-water yield is to estimate this factor as a component of the base flow of streams. The Upper Coastal Plain area of Orangeburg County is underlain at and near the ground surface by the Orangeburg Group (Barnwell, McBean and Congaree Formations) and the Hawthorn Formation. These units consist largely of permeable material so that proportionately more water infiltrates the soil than runs off the surface. Thus the stream discharge consists largely of ground-water discharge. Using the discharge which takes place 75 percent of the time (interpreted from Stallings, 1967), as a conservative estimate of the ground-water increment to the streams, then this percentile discharge as measured on the North and South Forks of the Edisto River at Orangeburg and Denmark, averages 0. 515 cfsm (cubic feet per second per square mile). This represents a ground-water discharge from the shallow aquifers of over 330,000 gpd (gallons per day) for each square mile. Similar computations for the drainage basin of the Edisto River in the lower Coastal Plain as measured by the gaging station near Branchville, indicate a ground-water discharge of about 392,000 gpd/sq mi. These quantities are considered conservative because the stream does not intercept the full depth of the aquifer and significant amounts of water discharge as underflow in accordance with the regional gradient. In addition, those ground waters which occur at comparatively shallow depths but are semi-confined by overlying clays or other nearly impermeable beds, also do not contribute their full volume to this streamflow.

The same type of evaluation probably cannot be applied to the drainage basin of Four Hole Swamp. This area is topographically low, with little relief, and is underlain by porous limestone. High rates of evapotranspiration coupled with a low density of stream occurrence and the fact that some streams may be losing water rather than gaining water from the ground make such an evaluation unreliable.

Ground Water Utilization

Ten municipalities in Orangeburg County maintain a public water supply and nine of these utilize ground water as a source. The city of Orangeburg uses the North Edisto River as a source. This proportionate division between ground and surface water sources is typical of utilization elsewhere throughout the Coastal Plain in this state, where all except three municipalities utilize ground water as a source for public water supplies.

As shown in Table 4, nine out of ten municipal supplies in counties adjoining Orangeburg also use ground water. The data in the table indicate a total capacity of 5.147 mgd (million gallons per day) and an average use of 0.813 mgd for the public supplies within Orangeburg County. Comparing these figures with adjoining counties, where the nine municipal supplies have a reported capacity of 7.956 mgd and an average use of 3.547 mgd, those cities or towns in Orangeburg County appear to have, at the present time, a substantial reserve of ground water available for future utilization. According to these data, the 19 municipal wells within the county have an individual average reported yield of nearly 200 gpm.

An unknown number of small industries or commercial establishments throughout the county use ground water, but no accurate estimates are available at this time concerning the amount of water used. The four largest industrial users of ground water are listed in Table 5, which indicates that 11 wells having a capacity of 7.952 mgd pump approximately 4.912 mgd. This is nearly six times the amount used for public supplies and none of the amount listed for industrial use is purchased from municipal suppliers. Water used by the Holly Hill Lumber Co. and Santee Portland Cement Co. (common ownership and location near Holly Hill), together with that used by Greenwood Mills, near Orangeburg, constitutes 96 percent of the large industrial use of ground water in the county. Not included in this total is the appreciable amount (4.32 mgd) used to dewater the crushed stone quarry at Cross, on the southeastern boundary of the county.

TABLE 4. MUNICIPAL WATER SUPPLIES IN ORANGEBURG COUNTY AND VICINITY (1972-73)

Municipal Supplies in Orangeburg County	No. of Wells	Total Capacity (MGD)	Avg. Daily Use (MGD)	Meter or Services[1]	Projected 1980 Use (MGD)
Bowman	2	0.215	0.100	271	N.A.
Branchville	2	0.180	0.075		N.A.
Cope	1	0.016	0.010	6	N.A.
Elloree	2	0.432	0.150	440	0.200
Eutawville	2	0.430	0.025	110	N.A.
Holly Hill	3	1.500	.070	486	.500
North	3	1.150	0.250	400	N.A.
Norway	2	0.36	0.055	110	0.055
Orangeburg	SW	8.00[2]	2.900[2]	7,417[2]	
Springfield	2	0.864	.078	320	0.120
Total	19	5.147	0.813	2,143	

Average daily use (gallons per person): 95.

[1]Serves an average of about 4 persons per meter [2]Not included in totals — surface water source.

Municipal Supplies in Adjoining Towns	No. of Wells	Total Capacity (MGD)	Avg. Daily Use (MGD)	Meter or Services	Projected 1980 Use (MGD)
St. George	3	0.550	0.250	665	.258
Harleyville	1	.130	0.022	215	0.530
Summerville	SW	1.000	0.850	3,200	
Bamberg	4	0.850	0.400	700	.392
Denmark	5	1.440	0.750	1,200	.850
Williston	4	1.940	0.700	800	N.A.
Salley	3	0.156	0.025	175	0.068
Wagener	3	0.380	0.225	500	.300
Swansea	3	0.790	0.075	220	N.A.
St. Matthews	3	0.720	0.250	960	.350
Total	29	7.956	3.547	8,635	

Sources: Environmental Quality Control, S. C. Department of Health and Environmental Control; S. C. Water Resources Commission, and U. S. Geol. Survey (author's estimates).

Average daily use (gallons per person): 102.

SW — Surface Water Source.

NA — Not Available.

A substantial amount of ground water is used throughout most rural areas for domestic, stock, and irrigational purposes. No reliable data are available to indicate the quantities of water utilized for these purposes within the county, but wells OR-139 through OR-173 (Table 2) are used almost exclusively to supply water for stock. It is estimated that about 0.20 mgd is used for this purpose from these wells alone but the total amount of ground water used for stock within the county is probably several times this amount.

According to various agricultural agencies, very little ground water is used at the present time for irrigation in Orangeburg County. A few dairies in the Orangeburg and Bowman areas use irrigation to grow corn for silage and a few farms in the southeastern part of the county use it for truck farming. The use of ground water for irrigation requires a substantial investment in equipment and a high labor cost. These conditions and the fact that supplemental water is needed on an infrequent basis acts as a deterrent to the use of ground water for this purpose.

Whereas the ground-water resources of Orangeburg County are definitely under-developed, especially with respect to the sand aquifers within the several formations of Cretaceous age, additional or future development should take into consideration the effects of heavy pumpage in nearby wells. This has been demonstrated in the Orangeburg area where the first well (OR-49) developed in the Tuscaloosa Formation had a static water level of about 190 ft. msl (12 feet above land surface) in September 1963 and a flow of about 650 gpm. During June to September 1964, wells OR-79, OR-80 and OR-81 were developed in the same formation at a site about 3¾ miles south of well OR-49, and shortly thereafter were pumped almost continuously (6 days out of 7) at a rate of about 1,000 to 1,300 gpm each for several years. By 1971 there was a head loss of about 10 to 12 feet and a decrease in flow of over 500 gpm in well OR-49. This decrease in head is caused by a combination of the effects of discharge from well OR-49, the interference of discharging wells OR-79, OR-80, and OR-81 and a decrease in well efficiency. One method of estimating the possible head loss in well OR-49 due to distant pumping is to assume reasonable values for aquifer characteristics and calculate the drawdown that would occur in well OR-49 as a result of pumping wells OR-79, OR-80, OR-81 for a period of about seven years. Using the Theis non-equilibrium formula (Theis, 1935), and substituting values of 151,000 gpd/ft for the transmissivity, 2.5×10^{-4} for the storage coefficient, 3,000 gpm for the pumping rate and seven years for time of pumping, the drawdown at OR-49 is calculated to be about 16 feet. However, this formula assumes no recharge or leakage to the aquifer and some recharge must have occurred during this time. If the calculated drawdown in well OR-49 were reduced by a rough estimate for the effects of leakage or recharge and the decline caused by flow from well OR-49, then it appears to approximate the observed drawdown. A test of the maximum pumping rate in well OR-49, made on March 10, 1972, indicated this rate to be about 509 gpm, compared with an original yield of about 1,020 gpm. This decrease might be due partly to a loss of efficiency in either or both the pump and

TABLE 5. INDUSTRIAL USE OF GROUND WATER IN ORANGEBURG COUNTY (1972)

Industry	No. of Wells	Total Capacity (mgd)	Avg. Daily Use (mgd)
Holly Hill Lumber Co.	5	1.540	0.200
Santee Portland Cement Co.	2	1.512	1.512
Ethyl Corp.	1	0.300	0.200
Greenwood Mills (formerly Fabric Services)	3	4.600	3.000
Total	11	7.952	4.912

The figures for Greenwood Mills represent those reported by the company. Remaining figures taken from **Water Use in South Carolina**, 1970, S. C. Water Resources Commission, March, 1971.

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CONTROL NO.	**DATE: March 24, 1988**	**TIME: 0930**
DISTRIBUTION: **Champion International** **F4-8801-06**		
BETWEEN: Ackerman, G.W., Owner	**OF: Ackerman-Carolina Drilling Company**	**PHONE: (803) 835-2100**
AND: Jerri Higgins, NUS Corporation JH		

DISCUSSION:

Mr. Ackerman has drilled many wells in the southern part of South Carolina. He stated that the majority of the wells he drilled were into the "marl" (the Santee Limestone) or deeper (Black Mingo, Peedee) and were from 100 to 350 feet deep. Some wells were more shallow, tapping the surficial aquifer (sand and clay), but the high content of iron in the water at this depth kept the number of wells to a minimum. The water table is usually around 40 feet below the surface of the land in the Orangeburg area.

Reference No. 18

LEVEL

NOTEBOOK NO. 311

Champion International Corporation

QUIREMENTS
ECEMBER 10, 1986

_ACTUAL AND OBJECTIVE

book:

n and distribution
signatures.

or.

nd remarks.

sheet:

ts used
description)
ourte)

(VOA, metals, etc.)

stamped information

nd to accept the receipt for
: be placed in the logbook.

All entries in this log book will be made by Jerri Higgins

Each page will be signed and dated; any and all corrections will be properly initialed.

Signature — Jerri Higgins

Initials — jlh

All notes and observations during this well survey will be included in this log book. For more detailed information such as names, addresses, phone numbers and well depths, refer to the well inventory forms. Those conducting this recon have read & understand the work plan. As confirmation of the understanding of the above, I present my signature.

Steve Walker   Jerri Higgins

Steve Walker   Jerri Higgins

Jan. 13, 1988   000001

01/13/88

1130 Arrived in Orangeburg. Pleasant cool weather, slightly overcast.

First stop is the Water Treatment Plant. Follow Hwy. 601 into town, turn right at intersection of Hwy 301 with Highway 601. One mile down is intersection - bear off to right just before traffic light, turn into Edisto Memorial Gardens. Take a right at stop sign, turn left at next street on left (Seaboard St.), then follow about 0.5 mile and make first turn on left. Then turn immediately to right, will see driveway to Water Plant; turn left onto driveway.

Here we met Mr. Hank Rutland, the superintendent of the Water Treatment Plant. The plant intakes water from the North Edisto River

Jerri Higgins 01/13/88

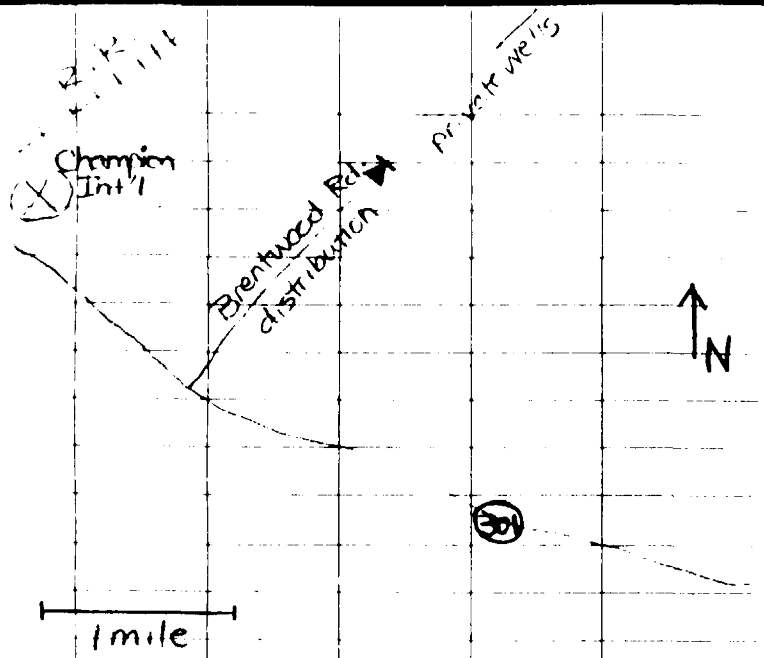
000002

which flows adjacent to the plant. The plant serves 14,000 customers, reaching as far as Wolfton & Jamison to the northwest and as far as Rowesville to the south. There are many rural areas between Orangeburg and these towns which have private wells, however.

We were able to draw distribution lines of the water supply onto our topo maps of the area and get an idea where these rural areas with private wells are located. Of particular interest were residences along Brentwood Rd, which runs northeast after intersection with Highway 301 South. These residences which are beyond the distribution lines of ~~[illegible]~~ the water company, are the closest locations with wells to the Champion International facility.

Jerri Higgins 01/13/88

000003



Mr. Rutland explained that Orange-ury had previously used groundwater wells for drinking water, but as the demand for water increased it became more economical to treat the accessible N. Edisto River water than to drill more wells. In 1940, the treatment plant went into operation.

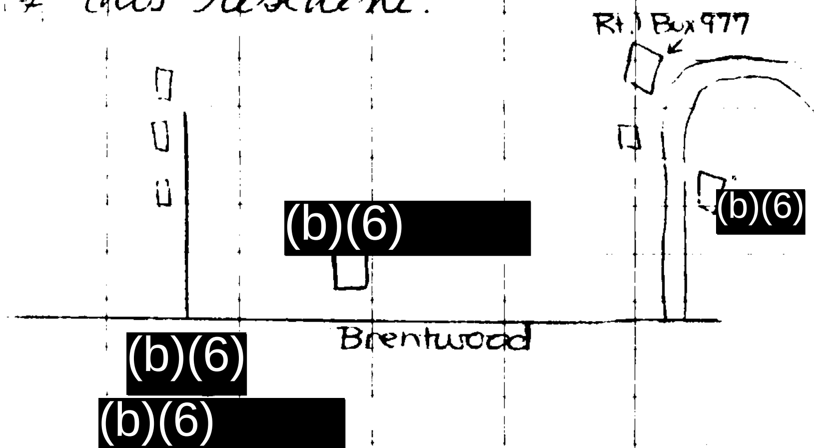
Jerri Higgins
01/13/88

15:30 Drove to Brentwood Road to observe residences with wells and obtain well inventory information.

Approximately 3 miles out Brentwood at [redacted] lives [redacted], [redacted] was not home, so no information was gathered. Dog in back yard, barking. Down the road about 1/4 mile was a house on the left with a wellhouse in the back yard. Also, no one home. The resident's name (from mailbox) was [redacted] — Rte 1, Box 259-A JH 1/13/88 Another 1/2 mile down Brentwood was an intersecting street on the left. Near the end of the street which was a cul-de-sac was a house which may be the closest house with well to the facility. The address is

01/13/88 Jerri Higgins

Rte 1, Box 977, but no name
on box. Will call neighbors
either [redacted] at Rte 1,
Box 975 or [redacted] to
find name and phone number
of this resident.



We drove up the street which
intersects Brentwood at the
owers house and spoke with
~~mo~~ young man who said
he and his neighbors on that
street were on the public

01/13/88

water supply, but he did
not know about the
[redacted] source of water.
Since no one was home at
the houses concerned, addresses
were taken in order to obtain
phone numbers upon return to
Atlanta.

16:30 Driving back to 301
and going north, we noticed
a church on left side of
street with a well house.
Upon further inspection, we
found the well was filled
with dirt and no longer in
use.

North on 301, we drove
by the facility which is
named U.S. Plywood (aka
Champion Int'l at times) and
verified the street name of
Five Chop Road (700 block).

01/13/88

Facility is large and in operation.

16:45 Headed back to Columbia to catch flight to Atlanta

01/13/88 Jerri Higgins

000008

01/15/88

Called information; obtained number for [redacted] [redacted] answered and said well is in use, but [redacted] knows no particulars. [redacted] Well was dug about 30 years ago. [redacted] would like to have municipal water but it is too expensive. [redacted] said the [redacted] at [redacted] have municipal water and that their residence is the cutoff point for the distribution lines of the water company. [redacted] name is [redacted]. Says the water tastes fine.

No well inventory forms were generated on this reconnaissance.

Jerri Higgins
01/15/88

000009

Reference No. 19

NUS CORPORATION AND SUBSIDIARIES		*TELECON NOTE*
CONTROL NO.	DATE: September 15, 1988	TIME: 1100
DISTRIBUTION:		
BETWEEN: Michael Sells	OF: City Water Department	PHONE: (803) 534-2821
AND: Teresa Sawyer of NUS Corporation		

DISCUSSION:

I asked Mr. Sells how many connections the city water department had and he answered 16,395.

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 1 - SITE LOCATION AND INSPECTION INFORMATION

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SC	DC0 ... 42177

II. SITE NAME AND LOCATION

01 SITE NAME (Legal, common, or descriptive name of site)	02 STREET, ROUTE NO., OR SPECIFIC LOCATION IDENTIFIER
Champion International Corporation	Five Chop Road + Myers Road

03 CITY	04 STATE	05 ZIP CODE	06 COUNTY	07 COUNTY CODE	08 CONG DIST
Orangeburg	SC		Orangeburg		

09 COORDINATES LATITUDE 33 38 00.0 LONGITUDE 81 13 00.0

10 TYPE OF OWNERSHIP (Check one)
☒ A. PRIVATE ☐ B. FEDERAL ______ ☐ C. STATE ☐ D. COUNTY ☐ E. MUNICIPAL
☐ F. OTHER ______ ☐ G. UNKNOWN

III. INSPECTION INFORMATION

01 DATE OF INSPECTION: 06 02 88 (MONTH DAY YEAR)

02 SITE STATUS: ☒ ACTIVE ☐ INACTIVE

03 YEARS OF OPERATION: unknown / 1988 (BEGINNING YEAR / ENDING YEAR) ___ UNKNOWN

04 AGENCY PERFORMING INSPECTION (Check all that apply)
☐ A. EPA ☒ B. EPA CONTRACTOR NUS Corporation (Name of firm) ☐ C. MUNICIPAL ☐ D. MUNICIPAL CONTRACTOR ______ (Name of firm)
☐ E. STATE ☐ F. STATE CONTRACTOR ______ (Name of firm) ☐ G. OTHER ______ (Specify)

05 CHIEF INSPECTOR	06 TITLE	07 ORGANIZATION	08 TELEPHONE NO.
Teresa Sawyer	Geologist - Project Manager	NUS Corp.	(404) 938-7710

09 OTHER INSPECTORS	10 TITLE	11 ORGANIZATION	12 TELEPHONE NO.
Kent Hankinson	Geologist	NUS Corp	( ) "
Robert Hutcheson	Geologist	NUS Corp	( ) "
Andrew Spaugh	Field Technician	NUS Corp	( ) "
Leften Carr	Geologist	NUS Corp	( ) "
Ron Young	Field Technician	NUS Corp	( )

13 SITE REPRESENTATIVES INTERVIEWED	14 TITLE	15 ADDRESS	16 TELEPHONE NO.
Tim Stevens - Ga. Pacific	Engineer	133 Peachtree St. NE Atlanta, Ga 30348	(404) 521-5081
Lawrence P.E. Otwell	Environmental Engineer	" "	( ) " "
			( )
			( )
			( )
			( )

17 ACCESS GAINED BY (Check one)	18 TIME OF INSPECTION	19 WEATHER CONDITIONS
☒ PERMISSION ☐ WARRANT	6/2/88	Clear and hot - approx 95°

IV. INFORMATION AVAILABLE FROM

01 CONTACT	02 OF (Agency/Organization)	03 TELEPHONE NO.
Scott Gordner	EPA - Atlanta	( )

04 PERSON RESPONSIBLE FOR SITE INSPECTION FORM	05 AGENCY	06 ORGANIZATION	07 TELEPHONE NO.	08 DATE
Teresa Sawyer	NUS Corp.		404-938-7710	09 26 88 (MONTH DAY YEAR)

EPA FORM 2070-13 (7-81)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003342177

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 ☐ A. GROUNDWATER CONTAMINATION — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 285 — 04 NARRATIVE DESCRIPTION

01 ☐ B. SURFACE WATER CONTAMINATION — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: 0 — 04 NARRATIVE DESCRIPTION

01 ☐ C. CONTAMINATION OF AIR — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ — 04 NARRATIVE DESCRIPTION

01 ☐ D. FIRE/EXPLOSIVE CONDITIONS — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ — 04 NARRATIVE DESCRIPTION

01 ☐ E. DIRECT CONTACT — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ — 04 NARRATIVE DESCRIPTION

01 ☐ F. CONTAMINATION OF SOIL — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
03 AREA POTENTIALLY AFFECTED: ______ (Acres) — 04 NARRATIVE DESCRIPTION

01 ☐ G. DRINKING WATER CONTAMINATION — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ — 04 NARRATIVE DESCRIPTION

01 ☐ H. WORKER EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
03 WORKERS POTENTIALLY AFFECTED: ______ — 04 NARRATIVE DESCRIPTION

01 ☐ I. POPULATION EXPOSURE/INJURY — 02 ☐ OBSERVED (DATE ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ — 04 NARRATIVE DESCRIPTION

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003342177

II. HAZARDOUS CONDITIONS AND INCIDENTS (Continued)

01 ☐ J. DAMAGE TO FLORA — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ K. DAMAGE TO FAUNA — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION (include name(s) of species)

01 ☐ L. CONTAMINATION OF FOOD CHAIN — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ M. UNSTABLE CONTAINMENT OF WASTES (Spills/Runoff/Standing liquids, Leaking drums) — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
03 POPULATION POTENTIALLY AFFECTED: ______ 04 NARRATIVE DESCRIPTION

01 ☐ N. DAMAGE TO OFFSITE PROPERTY — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ O. CONTAMINATION OF SEWERS, STORM DRAINS, WWTPs — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

01 ☐ P. ILLEGAL/UNAUTHORIZED DUMPING — 02 ☐ OBSERVED (DATE: ______) ☐ POTENTIAL ☐ ALLEGED
04 NARRATIVE DESCRIPTION

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL, OR ALLEGED HAZARDS

III. TOTAL POPULATION POTENTIALLY AFFECTED: ______

IV. COMMENTS

V. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION	
01 STATE	02 SITE NUMBER
SCD	003342177

VI. ENVIRONMENTAL INFORMATION

01 PERMEABILITY OF UNSATURATED ZONE (Check one)

☐ A. 10^{-6} – 10^{-8} cm/sec ☐ B. 10^{-4} – 10^{-6} cm/sec ☑ C. 10^{-4} – 10^{-3} cm/sec ☐ D. GREATER THAN 10^{-3} cm/sec

02 PERMEABILITY OF BEDROCK (Check one)

☐ A. IMPERMEABLE (Less than 10^{-6} cm/sec) ☐ B. RELATIVELY IMPERMEABLE (10^{-4} – 10^{-6} cm/sec) ☑ C. RELATIVELY PERMEABLE (10^{-2} – 10^{-4} cm/sec) ☐ D. VERY PERMEABLE (Greater than 10^{-2} cm/sec)

03 DEPTH TO BEDROCK	04 DEPTH OF CONTAMINATED SOIL ZONE	05 SOIL pH
50 - 170 (ft)	6 (ft)	

06 NET PRECIPITATION	07 ONE YEAR 24 HOUR RAINFALL	08 SLOPE: SITE SLOPE	DIRECTION OF SITE SLOPE	TERRAIN AVERAGE SLOPE
3.4 (in)	46.4 (in)	2.5 %	southeast	%

09 FLOOD POTENTIAL

SITE IS IN ______ YEAR FLOODPLAIN

10 ☐ SITE IS ON BARRIER ISLAND, COASTAL HIGH HAZARD AREA, RIVERINE FLOODWAY

11 DISTANCE TO WETLANDS (5 acre minimum)

ESTUARINE: A. 2000 ~~(mi)~~ ft

OTHER: B. ______ (mi)

12 DISTANCE TO CRITICAL HABITAT (of endangered species)

2000 ~~(mi)~~ ft.

ENDANGERED SPECIES: ______

13 LAND USE IN VICINITY

DISTANCE TO:

COMMERCIAL/INDUSTRIAL	RESIDENTIAL AREAS, ~~NATIONAL/STATE PARKS, FORESTS, OR WILDLIFE RESERVES~~	AGRICULTURAL LANDS: PRIME AG LAND	AG LAND
A. 0 (mi)	B. 0 (mi)	C. ______ (mi)	D. ______ (mi)

14 DESCRIPTION OF SITE IN RELATION TO SURROUNDING TOPOGRAPHY

VII. SOURCES OF INFORMATION (Cite specific references, e.g., state files, sample analysis, reports)

EPA

POTENTIAL HAZARDOUS WASTE SITE SITE INSPECTION REPORT
PART 5 - WATER, DEMOGRAPHIC, AND ENVIRONMENTAL DATA

I. IDENTIFICATION
01 STATE: SCD | 02 SITE NUMBER: CC 334 2177

II. DRINKING WATER SUPPLY

01 TYPE OF DRINKING SUPPLY (Check as applicable)

	SURFACE	WELL
COMMUNITY	A ☑	B ☐
NON-COMMUNITY	C ☐	D ☑

02 STATUS

	ENDANGERED	AFFECTED	MONITORED
	A. ☐	B. ☐	C. ☐
	D. ☐	E. ☐	F. ☐

03 DISTANCE TO SITE
A > 3 (mi)
B ______ (mi)

III. GROUNDWATER

01 GROUNDWATER USE IN VICINITY (Check one)
☐ A ONLY SOURCE FOR DRINKING
☑ B DRINKING (Other sources available) COMMERCIAL, INDUSTRIAL, IRRIGATION (No other water sources available)
☐ C COMMERCIAL, INDUSTRIAL, IRRIGATION (Limited other sources available)
☐ D NOT USED, UNUSEABLE

02 POPULATION SERVED BY GROUND WATER: 295

03 DISTANCE TO NEAREST DRINKING WATER WELL: 7500 ft

04 DEPTH TO GROUNDWATER	05 DIRECTION OF GROUNDWATER FLOW	06 DEPTH TO AQUIFER OF CONCERN	07 POTENTIAL YIELD OF AQUIFER	08 SOLE SOURCE AQUIFER
40 (ft)	south east	50-170 (ft)	______ (gpd)	☐ YES ☒ NO

09 DESCRIPTION OF WELLS (including usage, depth, and location relative to population and buildings)

10 RECHARGE AREA
☑ YES
☐ NO
COMMENTS

11 DISCHARGE AREA
☐ YES
☐ NO
COMMENTS

IV. SURFACE WATER

01 SURFACE WATER USE (Check one)
☑ A RESERVOIR, RECREATION DRINKING WATER SOURCE
☐ B IRRIGATION, ECONOMICALLY IMPORTANT RESOURCES
☐ C COMMERCIAL, INDUSTRIAL
☐ D NOT CURRENTLY USED

02 AFFECTED/POTENTIALLY AFFECTED BODIES OF WATER

NAME:	AFFECTED	DISTANCE TO SITE
Middle Penn Creek	☐	5 ft (mi)
Orillina Bnup	☐	2000 ft (mi)
	☐	(mi)

V. DEMOGRAPHIC AND PROPERTY INFORMATION

01 TOTAL POPULATION WITHIN

ONE (1) MILE OF SITE	TWO (2) MILES OF SITE	THREE (3) MILES OF SITE
A. ______ NO. OF PERSONS	B. ______ NO. OF PERSONS	C. ______ NO. OF PERSONS

02 DISTANCE TO NEAREST POPULATION ______ (mi)

03 NUMBER OF BUILDINGS WITHIN TWO (2) MILES OF SITE ______

04 DISTANCE TO NEAREST OFF-SITE BUILDING ______ (mi)

05 POPULATION WITHIN VICINITY OF SITE (Provide narrative description of nature of population within vicinity of site, e.g., rural, village, densely populated urban area)

South Carolina

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM******

DATE: 07/21/88

SUBJECT: Results of Cyanide Analysis;
88-373 CHAMPION INTERNATION
ORANGEBURG SC
CASE NO: 9702

FROM: Robert W. Knight
Chief, Laboratory Evaluation/Quality Assurance Section

TO: PHIL BLACKWELL

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

9/6

5.5 mg/kg
Cyanide in
1 soil

Check w Cody J

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

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*** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ***
**   PROJECT NO. 88-373    SAMPLE NO. 26448  SAMPLE TYPE: SOIL        PROG ELEM: NSF   COLLECTED BY: A SPAUGH              **
**   SOURCE: CHAMPION INTERNATION                                      CITY: ORANGEBURG             ST: SC                 **
**   STATION ID: SS-01                                                 COLLECTION START: 06/02/88          STOP: 00/00/00  **
**   CASE.NO.:  9702          SAS NO.:                                 D. NO.:                      MD NO: J304            **
**                                                                                                                         **
*** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ***
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RESULTS	UNITS	PARAMETER
0.51U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES   *J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN   *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26449 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SB-01
CASE.NO.: 9702 SAS NO.:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NO.: MD NO: J306

RESULTS	UNITS	PARAMETER
0.58U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26450 SAMPLE TYPE: SURFACEWA	PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION	CITY: ORANGEBURG ST: SC
STATION ID: SW-01	COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:	D. NO.: MD NO: J305

RESULTS	UNITS	PARAMETER
0.01UJ	MG/L	CYANIDE

REMARKS
HOLDING TIME EXCEEDED-CN

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26451 SAMPLE TYPE: SEDIM	PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION	CITY: ORANGEBURG ST: SC
STATION ID: SD-01	COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:	D. NO.: MD NO: J303

RESULTS	UNITS	PARAMETER
0.63U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

*** ***
** PROJECT NO. 88-373 SAMPLE NO. 26452 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SW-03 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE.NO.: 9702 SAS NO.: D. NO.: MD NO: J308 **
** **
*** ***

RESULTS	UNITS	PARAMETER
0.01UJ	MG/L	CYANIDE

REMARKS
HOLDING TIME EXCEEDED-CN

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26453 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.: D. NO.: MD NO: J307

RESULTS	UNITS	PARAMETER
0.65U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

*** ***
** PROJECT NO. 88-373 SAMPLE NO. 26454 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: CS-02 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE.NO.: 9702 SAS NO.: D. NO.: MD NO: J309 **
** **
*** ***

RESULTS	UNITS	PARAMETER
5.5	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26455 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.: D. NO.: MD NO: J311

RESULTS	UNITS	PARAMETER
0.51U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26456 SAMPLE TYPE: SOIL	PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION	CITY: ORANGEBURG ST: SC
STATION ID: SB-03	COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:	D. NO.: MD NO: J312

RESULTS	UNITS	PARAMETER
0.56U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26457 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.: D. NO.: MD NO: J313

RESULTS	UNITS	PARAMETER
0.01UJ	MG/L	CYANIDE

REMARKS
HOLDING TIME EXCEEDED-CN

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

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**   PROJECT NO. 88-373    SAMPLE NO. 26458  SAMPLE TYPE: SEDIM       PROG ELEM: NSF   COLLECTED BY: A SPAUGH                **
**   SOURCE: CHAMPION INTERNATION                                     CITY: ORANGEBURG            ST: SC                     **
**   STATION ID: SD-02                                                COLLECTION START: 06/02/88        STOP: 00/00/00       **
**   CASE.NO.:  9702           SAS NO.:                               D. NO.:                    MD NO: J310                 **
**                                                                                                                           **
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RESULTS	UNITS	PARAMETER
0.68U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES   *J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN   *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26459 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SB-02
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:
D. NO.: MD NO: J314

RESULTS	UNITS	PARAMETER
0.54U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

SPECIFIED ANALYSIS DATA REPORT

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**   PROJECT NO. 88-373    SAMPLE NO. 26464  SAMPLE TYPE: SOIL          PROG ELEM: NSF   COLLECTED BY: A SPAUGH             **
**   SOURCE: CHAMPION INTERNATION                                       CITY: ORANGEBURG            ST: SC                  **
**   STATION ID: SS-04                                                  COLLECTION START: 06/02/88        STOP: 00/00/00    **
**   CASE.NO.:  9702          SAS NO.:                                  D. NO.:                    MD NO: J315              **
**                                                                                                                          **
*** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ***
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RESULTS	UNITS	PARAMETER
0.53U	MG/KG	CYANIDE

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES   *J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN   *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM******

DATE: 07/21/88

SUBJECT: Results of Metals Analysis;
88-373 CHAMPION INTERNATION
ORANGEBURG SC
CASE NO: 9702

FROM: Robert W. Knight
Chief, Laboratory Evaluation/Quality Assurance Section

TO: PHIL BLACKWELL

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

cc: Narindar Kumar

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

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** PROJECT NO. 88-373 SAMPLE NO. 26448 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SS-01 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J304 **
** **

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MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
2700	ALUMINUM	43J	MANGANESE
7.2UR	ANTIMONY	0.1U	MERCURY
0.81JN	ARSENIC	7U	NICKEL
30	BARIUM	310U	POTASSIUM
0.37U	BERYLLIUM	0.61UR	SELENIUM
0.63U	CADMIUM	1.1U	SILVER
720	CALCIUM	30U	SODIUM
4.7	CHROMIUM	0.61UJ	THALLIUM
2.7U	COBALT	NA	TIN
1UJ	COPPER	7.9	VANADIUM
2700	IRON	20UJ	ZINC
13J	LEAD	01	PERCENT MOISTURE
120J	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26449 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SB-01
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER:
MD NUMBER: J306

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
13000	ALUMINUM	0.79U	MANGANESE
8.2UR	ANTIMONY	0.12U	MERCURY
9.8JN	ARSENIC	8U	NICKEL
10	BARIUM	350U	POTASSIUM
0.42U	BERYLLIUM	0.7UR	SELENIUM
0.72U	CADMIUM	1.3U	SILVER
420	CALCIUM	30U	SODIUM
16	CHROMIUM	0.7UJ	THALLIUM
3.1U	COBALT	NA	TIN
1.1UJ	COPPER	41	VANADIUM
17000	IRON	8UJ	ZINC
6.5J	LEAD	14	PERCENT MOISTURE
140J	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26450 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-01 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J305

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
170UJ	ALUMINUM	26	MANGANESE
40UJ	ANTIMONY	0.2U	MERCURY
3U	ARSENIC	40U	NICKEL
30	BARIUM	2400	POTASSIUM
2U	BERYLLIUM	3U	SELENIUM
4U	CADMIUM	6U	SILVER
23000	CALCIUM	8900	SODIUM
9U	CHROMIUM	3U	THALLIUM
20U	COBALT	NA	TIN
5U	COPPER	8U	VANADIUM
1000J	IRON	30UJ	ZINC
2U	LEAD		
1800	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26451 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-01 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J303

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
380	ALUMINUM	3UJ	MANGANESE
9UR	ANTIMONY	0.13U	MERCURY
0.76UR	ARSENIC	8.7U	NICKEL
3.3U	BARIUM	380U	POTASSIUM
1UJ	BERYLLIUM	2UJ	SELENIUM
0.78U	CADMIUM	1.4U	SILVER
170UJ	CALCIUM	30U	SODIUM
2.7	CHROMIUM	0.76UJ	THALLIUM
3.4U	COBALT	NA	TIN
11	COPPER	1.9U	VANADIUM
460	IRON	20UJ	ZINC
1.6J	LEAD	21	PERCENT MOISTURE
50U	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26452   SAMPLE TYPE: SURFACEWA   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SW-03   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE NUMBER: 9702   SAS NUMBER: MD NUMBER: J308

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
100UJ	ALUMINUM	26	MANGANESE
40U	ANTIMONY	0.2U	MERCURY
3U	ARSENIC	40U	NICKEL
30	BARIUM	2700	POTASSIUM
2U	BERYLLIUM	3U	SELENIUM
4U	CADMIUM	6U	SILVER
23000	CALCIUM	8600	SODIUM
9U	CHROMIUM	3U	THALLIUM
13U	COBALT	NA	TIN
5U	COPPER	8U	VANADIUM
950J	IRON	20U	ZINC
3UJ	LEAD		
2000	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26453 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J307

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
450	ALUMINUM	2UJ	MANGANESE
9.3UR	ANTIMONY	0.13U	MERCURY
0.78UR	ARSENIC	9U	NICKEL
3.4U	BARIUM	390U	POTASSIUM
1UJ	BERYLLIUM	0.78UR	SELENIUM
0.81U	CADMIUM	1.4U	SILVER
130UJ	CALCIUM	30U	SODIUM
2.3U	CHROMIUM	0.78UJ	THALLIUM
3.5U	COBALT	NA	TIN
1.2U	COPPER	1.9U	VANADIUM
660	IRON	20UJ	ZINC
3J	LEAD	23	PERCENT MOISTURE
50U	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26454 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: CS-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J309

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
4200	ALUMINUM	81	MANGANESE
7.2UR	ANTIMONY	0.1U	MERCURY
6.7JN	ARSENIC	7U	NICKEL
160	BARIUM	310U	POTASSIUM
0.37U	BERYLLIUM	1UJ	SELENIUM
2.6	CADMIUM	1.1U	SILVER
1400	CALCIUM	40UJ	SODIUM
36	CHROMIUM	0.61UJ	THALLIUM
2.7U	COBALT	NA	TIN
6.2J	COPPER	16	VANADIUM
11000	IRON	240J	ZINC
55J	LEAD	02	PERCENT MOISTURE
260J	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26455   SAMPLE TYPE: SOIL   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SS-03   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE NUMBER: 9702   SAS NUMBER: MD NUMBER: J311

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
4700	ALUMINUM	37J	MANGANESE
7.3UR	ANTIMONY	0.1U	MERCURY
2.8JN	ARSENIC	7.1U	NICKEL
70	BARIUM	310U	POTASSIUM
0.37U	BERYLLIUM	0.62UR	SELENIUM
1UJ	CADMIUM	1.1U	SILVER
1100	CALCIUM	40UJ	SODIUM
8.7	CHROMIUM	0.62UJ	THALLIUM
2.7U	COBALT	NA	TIN
2.3J	COPPER	12	VANADIUM
5400	IRON	50UJ	ZINC
14J	LEAD	02	PERCENT MOISTURE
200	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26456 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SB-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J312

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
6900	ALUMINUM	3UJ	MANGANESE
8UR	ANTIMONY	0.11U	MERCURY
1.6JN	ARSENIC	7.8U	NICKEL
9.6	BARIUM	340U	POTASSIUM
0.4U	BERYLLIUM	0.67UR	SELENIUM
0.7U	CADMIUM	1.2U	SILVER
210UJ	CALCIUM	50UJ	SODIUM
8.2	CHROMIUM	0.67UJ	THALLIUM
3U	COBALT	NA	TIN
1.1UJ	COPPER	19	VANADIUM
5500	IRON	6UJ	ZINC
3.7J	LEAD	11	PERCENT MOISTURE
78	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/20/88

METALS DATA REPORT

*** ***
** PROJECT NO. 88-373 SAMPLE NO. 26457 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J313 **
**
*** ***

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
5300	ALUMINUM	130	MANGANESE
40U	ANTIMONY	0.2U	MERCURY
7JN	ARSENIC	40U	NICKEL
190	BARIUM	96000	POTASSIUM
2U	BERYLLIUM	3U	SELENIUM
4U	CADMIUM	6U	SILVER
30000	CALCIUM	440000	SODIUM
9U	CHROMIUM	3U	THALLIUM
14U	COBALT	NA	TIN
5U	COPPER	22	VANADIUM
2900J	IRON	30UJ	ZINC
10U	LEAD		
3000	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26458 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J310

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
820	ALUMINUM	10	MANGANESE
9.7UR	ANTIMONY	0.14U	MERCURY
2UJ	ARSENIC	9.5U	NICKEL
19	BARIUM	410U	POTASSIUM
0.49U	BERYLLIUM	0.82UR	SELENIUM
1UJ	CADMIUM	1.5U	SILVER
350UJ	CALCIUM	320UJ	SODIUM
2.4U	CHROMIUM	0.82UJ	THALLIUM
3.7U	COBALT	NA	TIN
1.3U	COPPER	3.7	VANADIUM
1200	IRON	20UJ	ZINC
2.3J	LEAD	27	PERCENT MOISTURE
64	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/20/88

METALS DATA REPORT

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** PROJECT NO. 88-373 SAMPLE NO. 26459 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SB-02 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J314 **
** **

*** ***

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
5600	ALUMINUM	0.74UJ	MANGANESE
7.7UR	ANTIMONY	0.11U	MERCURY
6.7JN	ARSENIC	7.5U	NICKEL
8.7	BARIUM	330U	POTASSIUM
0.39U	BERYLLIUM	2UJ	SELENIUM
0.67U	CADMIUM	1.2U	SILVER
50UJ	CALCIUM	70UJ	SODIUM
20U	CHROMIUM	0.65UJ	THALLIUM
2.9U	COBALT	NA	TIN
1UJ	COPPER	16	VANADIUM
6000	IRON	7UJ	ZINC
2.9J	LEAD	08	PERCENT MOISTURE
40U	MAGNESIUM		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/20/88

METALS DATA REPORT

*** ***
** PROJECT NO. 88-373 SAMPLE NO. 26464 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SS-04 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE NUMBER: 9702 SAS NUMBER: MD NUMBER: J315 **
** **
*** ***

MG/KG	ANALYTICAL RESULTS	MG/KG	ANALYTICAL RESULTS
3100	ALUMINUM	140J	MANGANESE
7.5UR	ANTIMONY	0.11U	MERCURY
3JN	ARSENIC	23	NICKEL
100	BARIUM	320U	POTASSIUM
1UJ	BERYLLIUM	2UJ	SELENIUM
0.66U	CADMIUM	1.2U	SILVER
1700	CALCIUM	60UJ	SODIUM
78	CHROMIUM	0.64UJ	THALLIUM
4.5	COBALT	NA	TIN
6.4J	COPPER	8.5	VANADIUM
4300	IRON	83J	ZINC
29J	LEAD	06	PERCENT MOISTURE
180	MAGNESIUM		

REMARKS ***REMARKS***

FOOTNOTES
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM******

DATE: 07/13/88

SUBJECT: Results of Purgeable Organic Analysis;
88-373 CHAMPION INTERNATION
ORANGEBURG SC
CASE NO: 9702

FROM: Robert W. Knight
Chief, Laboratory Evaluation/Quality Assurance Section

TO: PHIL BLACKWELL

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26411 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-01
CASE NO.: 9702 SAS NO.:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NO.: J409

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
10UJ	CHLOROMETHANE	5UJ	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10UJ	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
7UJ	METHYLENE CHLORIDE	5U	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5UJ	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10UJ	METHYL BUTYL KETONE
5U	CHLOROFORM	5UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	40U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE	2	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26412 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SB-01 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J411

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12UJ	CHLOROMETHANE	6UJ	CIS-1,3-DICHLOROPROPENE
12U	BROMOMETHANE	6UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
12U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
20UJ	METHYLENE CHLORIDE	6U	BENZENE
20UJ	ACETONE	6UJ	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6UJ	BROMOFORM
6U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	12UJ	METHYL BUTYL KETONE
6U	CHLOROFORM	6UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6UJ	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
12UR	METHYL ETHYL KETONE	70U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
12U	VINYL ACETATE	6U	STYRENE
6UJ	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	15	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26413 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-01 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J410

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
5UJ	METHYLENE CHLORIDE	5UJ	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5UJ	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	8U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26414 SAMPLE TYPE: SEDIM
SOURCE: CHAMPION INTERNATION
STATION ID: SD-01

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J408

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12UJ	CHLOROMETHANE	6UJ	CIS-1,3-DICHLOROPROPENE
12U	BROMOMETHANE	6UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
12U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
20UJ	METHYLENE CHLORIDE	6U	BENZENE
30UJ	ACETONE	6UJ	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6UJ	BROMOFORM
6U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	12UJ	METHYL BUTYL KETONE
6U	CHLOROFORM	6UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6UJ	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
12UR	METHYL ETHYL KETONE	6U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
12U	VINYL ACETATE	6U	STYRENE
6UJ	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	18	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26415 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: J413

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
5UJ	METHYLENE CHLORIDE	5UJ	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5UJ	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	20U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26416 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-03 COLLECTION START. 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J412

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
13UJ	CHLOROMETHANE	6UJ	CIS-1,3-DICHLOROPROPENE
13U	BROMOMETHANE	6UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
13U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
13U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
30UJ	METHYLENE CHLORIDE	6U	BENZENE
20UJ	ACETONE	6UJ	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6UJ	BROMOFORM
6U	1,1-DICHLOROETHANE	13U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	13UJ	METHYL BUTYL KETONE
6U	CHLOROFORM	6UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6UJ	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
13UR	METHYL ETHYL KETONE	6U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
13U	VINYL ACETATE	6U	STYRENE
6UJ	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26417 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: CS-02

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J414

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
22U	CHLOROMETHANE	11U	CIS-1,3-DICHLOROPROPENE
22U	BROMOMETHANE	11U	TRICHLOROETHENE(TRICHLOROETHYLENE)
22U	VINYL CHLORIDE	11U	DIBROMOCHLOROMETHANE
22U	CHLOROETHANE	11U	1,1,2-TRICHLOROETHANE
50U	METHYLENE CHLORIDE	11U	BENZENE
200UJ	ACETONE	11U	TRANS-1,3-DICHLOROPROPENE
11U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
11U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	11U	BROMOFORM
11U	1,1-DICHLOROETHANE	22U	METHYL ISOBUTYL KETONE
11U	1,2-DICHLOROETHENE (TOTAL)	22U	METHYL BUTYL KETONE
11U	CHLOROFORM	11U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
11U	1,2-DICHLOROETHANE	11U	1,1,2,2-TETRACHLOROETHANE
22UR	METHYL ETHYL KETONE	500U	TOLUENE
11U	1,1,1-TRICHLOROETHANE	11U	CHLOROBENZENE
11U	CARBON TETRACHLORIDE	11U	ETHYL BENZENE
22U	VINYL ACETATE	11U	STYRENE
11U	BROMODICHLOROMETHANE	11U	TOTAL XYLENES
11U	1,2-DICHLOROPROPANE	10	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26418 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-03

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J416

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
10U	METHYLENE CHLORIDE	5U	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5U	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	30U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE	3	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

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** PROJECT NO. 88-373 SAMPLE NO. 26419 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SB-03 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** **
** CASE NO.: 9702 SAS NO.: D. NO.: J417 **

*** ***

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
11U	CHLOROMETHANE	6U	CIS-1,3-DICHLOROPROPENE
11U	BROMOMETHANE	6U	TRICHLOROETHENE(TRICHLOROETHYLENE)
11U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
11U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
60U	METHYLENE CHLORIDE	6U	BENZENE
20UJ	ACETONE	6U	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6U	BROMOFORM
6U	1,1-DICHLOROETHANE	11U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	11U	METHYL BUTYL KETONE
6U	CHLOROFORM	6U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6U	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
11UR	METHYL ETHYL KETONE	6U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
11U	VINYL ACETATE	6U	STYRENE
6U	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	11	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

PURGEABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26420 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: J418

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
5UJ	METHYLENE CHLORIDE	5UJ	BENZENE
20UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5UJ	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	20U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE		

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26421   SAMPLE TYPE: SEDIM   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SD-02   COLLECTION START: 06/02/88   STOP: 00/00/00

CASE NO.: 9702   SAS NO.:   D. NO.: J415

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12UJ	CHLOROMETHANE	6UJ	CIS-1,3-DICHLOROPROPENE
12U	BROMOMETHANE	6UJ	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
12U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
20UJ	METHYLENE CHLORIDE	6U	BENZENE
40UJ	ACETONE	6UJ	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6UJ	BROMOFORM
6U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	12UJ	METHYL BUTYL KETONE
6U	CHLOROFORM	6UJ	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6UJ	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
12UR	METHYL ETHYL KETONE	20U	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
12U	VINYL ACETATE	6U	STYRENE
6UJ	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	19	PERCENT MOISTURE

REMARKS   ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE   *NA-NOT ANALYZED   *NAI-INTERFERENCES   *J-ESTIMATED VALUE   *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN   *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26422 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SB-02
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: J419

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
11U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
11U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
11U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
11U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
20U	METHYLENE CHLORIDE	5U	BENZENE
30UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5U	1,1-DICHLOROETHANE	11U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	11U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
11UR	METHYL ETHYL KETONE	5U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
11U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE	8	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26424 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-05 REGION IV QC BLANK COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J426

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
12U	CHLOROMETHANE	6U	CIS-1,3-DICHLOROPROPENE
12U	BROMOMETHANE	6U	TRICHLOROETHENE(TRICHLOROETHYLENE)
12U	VINYL CHLORIDE	6U	DIBROMOCHLOROMETHANE
12U	CHLOROETHANE	6U	1,1,2-TRICHLOROETHANE
13	METHYLENE CHLORIDE	6U	BENZENE
41	ACETONE	6U	TRANS-1,3-DICHLOROPROPENE
6U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
6U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	6U	BROMOFORM
6U	1,1-DICHLOROETHANE	12U	METHYL ISOBUTYL KETONE
6U	1,2-DICHLOROETHENE (TOTAL)	12U	METHYL BUTYL KETONE
6U	CHLOROFORM	6U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
6U	1,2-DICHLOROETHANE	6U	1,1,2,2-TETRACHLOROETHANE
12U	METHYL ETHYL KETONE	21	TOLUENE
6U	1,1,1-TRICHLOROETHANE	6U	CHLOROBENZENE
6U	CARBON TETRACHLORIDE	6U	ETHYL BENZENE
12U	VINYL ACETATE	6U	STYRENE
6U	BROMODICHLOROMETHANE	6U	TOTAL XYLENES
6U	1,2-DICHLOROPROPANE	15	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PURGEABLE ORGANICS DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26427 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-04 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J420

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
10U	CHLOROMETHANE	5U	CIS-1,3-DICHLOROPROPENE
10U	BROMOMETHANE	5U	TRICHLOROETHENE(TRICHLOROETHYLENE)
10U	VINYL CHLORIDE	5U	DIBROMOCHLOROMETHANE
10U	CHLOROETHANE	5U	1,1,2-TRICHLOROETHANE
20U	METHYLENE CHLORIDE	5U	BENZENE
30UJ	ACETONE	5U	TRANS-1,3-DICHLOROPROPENE
5U	CARBON DISULFIDE	NA	2-CHLOROETHYLVINYL ETHER
5U	1,1-DICHLOROETHENE(1,1-DICHLOROETHYLENE)	5U	BROMOFORM
5U	1,1-DICHLOROETHANE	10U	METHYL ISOBUTYL KETONE
5U	1,2-DICHLOROETHENE (TOTAL)	10U	METHYL BUTYL KETONE
5U	CHLOROFORM	5U	TETRACHLOROETHENE(TETRACHLOROETHYLENE)
5U	1,2-DICHLOROETHANE	5U	1,1,2,2-TETRACHLOROETHANE
10UR	METHYL ETHYL KETONE	20U	TOLUENE
5U	1,1,1-TRICHLOROETHANE	5U	CHLOROBENZENE
5U	CARBON TETRACHLORIDE	5U	ETHYL BENZENE
10U	VINYL ACETATE	5U	STYRENE
5U	BROMODICHLOROMETHANE	5U	TOTAL XYLENES
5U	1,2-DICHLOROPROPANE	4	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM******

DATE: 07/13/88

SUBJECT: Results of Extractable Organic Analysis;
88-373 CHAMPION INTERNATION
ORANGEBURG SC
CASE NO: 9702

FROM: Robert W. Knight
Chief, Laboratory Evaluation/Quality Assurance Section

TO: PHIL BLACKWELL

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

cc: Narindar Kumar

petroleum products

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26411 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-01
PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: J409

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
340U	PHENOL	1600U	3-NITROANILINE
340U	BIS(2-CHLOROETHYL) ETHER	340U	ACENAPHTHENE
340U	2-CHLOROPHENOL	1600UJ	2,4-DINITROPHENOL
340U	1,3-DICHLOROBENZENE	1600UJ	4-NITROPHENOL
340U	1,4-DICHLOROBENZENE	340U	DIBENZOFURAN
340U	BENZYL ALCOHOL	340U	2,4-DINITROTOLUENE
340U	1,2-DICHLOROBENZENE	340U	DIETHYL PHTHALATE
340U	2-METHYLPHENOL	340U	4-CHLOROPHENYL PHENYL ETHER
340U	BIS(2-CHLOROISOPROPYL) ETHER	340U	FLUORENE
340U	(3-AND/OR 4-)METHYLPHENOL	1600U	4-NITROANILINE
340U	N-NITROSODI-N-PROPYLAMINE	1600U	2-METHYL-4,6-DINITROPHENOL
340U	HEXACHLOROETHANE	340U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
340U	NITROBENZENE	340U	4-BROMOPHENYL PHENYL ETHER
340U	ISOPHORONE	340U	HEXACHLOROBENZENE (HCB)
340U	2-NITROPHENOL	1600U	PENTACHLOROPHENOL
340U	2,4-DIMETHYLPHENOL	340U	PHENANTHRENE
1600UJ	BENZOIC ACID	340U	ANTHRACENE
340U	BIS(2-CHLOROETHOXY) METHANE	340U	DI-N-BUTYLPHTHALATE
340U	2,4-DICHLOROPHENOL	340U	FLUORANTHENE
340U	1,2,4-TRICHLOROBENZENE	340U	PYRENE
340U	NAPHTHALENE	340U	BENZYL BUTYL PHTHALATE
340UJ	4-CHLOROANILINE	670U	3,3'-DICHLOROBENZIDINE
340UJ	HEXACHLOROBUTADIENE	340U	BENZO(A)ANTHRACENE
340U	4-CHLORO-3-METHYLPHENOL	340U	CHRYSENE
340U	2-METHYLNAPHTHALENE	340U	BIS(2-ETHYLHEXYL) PHTHALATE
340UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)	340U	DI-N-OCTYLPHTHALATE
340U	2,4,6-TRICHLOROPHENOL	340U	BENZO(B AND/OR K)FLUORANTHENE
1600U	2,4,5-TRICHLOROPHENOL	340U	BENZO-A-PYRENE
340U	2-CHLORONAPHTHALENE	340U	INDENO (1,2,3-CD) PYRENE
1600U	2-NITROANILINE	340U	DIBENZO(A,H)ANTHRACENE
340U	DIMETHYL PHTHALATE	340U	BENZO(GHI)PERYLENE
340U	ACENAPHTHYLENE	2	PERCENT MOISTURE
340U	2,6-DINITROTOLUENE		

REMARKS

REMARKS

FOOTNOTES
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*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26412 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SB-01
PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: J411

UG/KG	ANALYTICAL RESULTS
390U	PHENOL
390U	BIS(2-CHLOROETHYL) ETHER
390U	2-CHLOROPHENOL
390U	1,3-DICHLOROBENZENE
390U	1,4-DICHLOROBENZENE
390U	BENZYL ALCOHOL
390U	1,2-DICHLOROBENZENE
390U	2-METHYLPHENOL
390U	BIS(2-CHLOROISOPROPYL) ETHER
390U	(3-AND/OR 4-)METHYLPHENOL
390U	N-NITROSODI-N-PROPYLAMINE
390U	HEXACHLOROETHANE
390U	NITROBENZENE
390U	ISOPHORONE
390U	2-NITROPHENOL
390U	2,4-DIMETHYLPHENOL
1900UJ	BENZOIC ACID
390U	BIS(2-CHLOROETHOXY) METHANE
390U	2,4-DICHLOROPHENOL
390U	1,2,4-TRICHLOROBENZENE
390U	NAPHTHALENE
390UJ	4-CHLOROANILINE
390UJ	HEXACHLOROBUTADIENE
390U	4-CHLORO-3-METHYLPHENOL
390U	2-METHYLNAPHTHALENE
390UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)
390U	2,4,6-TRICHLOROPHENOL
1900U	2,4,5-TRICHLOROPHENOL
390U	2-CHLORONAPHTHALENE
1900U	2-NITROANILINE
390U	DIMETHYL PHTHALATE
390U	ACENAPHTHYLENE
390U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1900U	3-NITROANILINE
390U	ACENAPHTHENE
1900UJ	2,4-DINITROPHENOL
1900UJ	4-NITROPHENOL
390U	DIBENZOFURAN
390U	2,4-DINITROTOLUENE
390U	DIETHYL PHTHALATE
390U	4-CHLOROPHENYL PHENYL ETHER
390U	FLUORENE
1900U	4-NITROANILINE
1900U	2-METHYL-4,6-DINITROPHENOL
390U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
390U	4-BROMOPHENYL PHENYL ETHER
390U	HEXACHLOROBENZENE (HCB)
1900U	PENTACHLOROPHENOL
390U	PHENANTHRENE
390U	ANTHRACENE
390U	DI-N-BUTYLPHTHALATE
390U	FLUORANTHENE
390U	PYRENE
390U	BENZYL BUTYL PHTHALATE
780U	3,3'-DICHLOROBENZIDINE
390U	BENZO(A)ANTHRACENE
390U	CHRYSENE
390U	BIS(2-ETHYLHEXYL) PHTHALATE
390U	DI-N-OCTYLPHTHALATE
390U	BENZO(B AND/OR K)FLUORANTHENE
390U	BENZO-A-PYRENE
390U	INDENO (1,2,3-CD) PYRENE
390U	DIBENZO(A,H)ANTHRACENE
390U	BENZO(GHI)PERYLENE
15	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26413 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-01 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J410

UG/L	ANALYTICAL RESULTS
20U	PHENOL
20U	BIS(2-CHLOROETHYL) ETHER
20U	2-CHLOROPHENOL
20U	1,3-DICHLOROBENZENE
20U	1,4-DICHLOROBENZENE
20U	BENZYL ALCOHOL
20U	1,2-DICHLOROBENZENE
20U	2-METHYLPHENOL
20UJ	BIS(2-CHLOROISOPROPYL) ETHER
20U	(3-AND/OR 4-)METHYLPHENOL
20UJ	N-NITROSODI-N-PROPYLAMINE
20U	HEXACHLOROETHANE
20UJ	NITROBENZENE
20UJ	ISOPHORONE
20U	2-NITROPHENOL
20UJ	2,4-DIMETHYLPHENOL
100UJ	BENZOIC ACID
20UJ	BIS(2-CHLOROETHOXY) METHANE
20U	2,4-DICHLOROPHENOL
20U	1,2,4-TRICHLOROBENZENE
20U	NAPHTHALENE
20UJ	4-CHLOROANILINE
20U	HEXACHLOROBUTADIENE
20U	4-CHLORO-3-METHYLPHENOL
20U	2-METHYLNAPHTHALENE
20U	HEXACHLOROCYCLOPENTADIENE (HCCP)
20U	2,4,6-TRICHLOROPHENOL
100U	2,4,5-TRICHLOROPHENOL
20U	2-CHLORONAPHTHALENE
100UJ	2-NITROANILINE
20U	DIMETHYL PHTHALATE
20U	ACENAPHTHYLENE
20U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
100U	3-NITROANILINE
20U	ACENAPHTHENE
100UJ	2,4-DINITROPHENOL
100UJ	4-NITROPHENOL
20U	DIBENZOFURAN
20U	2,4-DINITROTOLUENE
20U	DIETHYL PHTHALATE
20U	4-CHLOROPHENYL PHENYL ETHER
20U	FLUORENE
100U	4-NITROANILINE
100U	2-METHYL-4,6-DINITROPHENOL
20U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20U	4-BROMOPHENYL PHENYL ETHER
20UJ	HEXACHLOROBENZENE (HCB)
100U	PENTACHLOROPHENOL
20U	PHENANTHRENE
20U	ANTHRACENE
20UJ	DI-N-BUTYLPHTHALATE
20U	FLUORANTHENE
20U	PYRENE
20U	BENZYL BUTYL PHTHALATE
40U	3,3'-DICHLOROBENZIDINE
20U	BENZO(A)ANTHRACENE
20U	CHRYSENE
20UJ	BIS(2-ETHYLHEXYL) PHTHALATE
20U	DI-N-OCTYLPHTHALATE
20U	BENZO(B AND/OR K)FLUORANTHENE
20U	BENZO-A-PYRENE
20U	INDENO (1,2,3-CD) PYRENE
20UJ	DIBENZO(A,H)ANTHRACENE
20U	BENZO(GHI)PERYLENE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373   SAMPLE NO. 26414   SAMPLE TYPE: SEDIM   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SD-01   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE NO.: 9702   SAS NO.:   D. NO.: J408

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
400U	PHENOL	2000U	3-NITROANILINE
400U	BIS(2-CHLOROETHYL) ETHER	400U	ACENAPHTHENE
400U	2-CHLOROPHENOL	2000UJ	2,4-DINITROPHENOL
400U	1,3-DICHLOROBENZENE	2000UJ	4-NITROPHENOL
400U	1,4-DICHLOROBENZENE	400U	DIBENZOFURAN
400U	BENZYL ALCOHOL	400U	2,4-DINITROTOLUENE
400U	1,2-DICHLOROBENZENE	400U	DIETHYL PHTHALATE
400U	2-METHYLPHENOL	400U	4-CHLOROPHENYL PHENYL ETHER
400UJ	BIS(2-CHLOROISOPROPYL) ETHER	400U	FLUORENE
400U	(3-AND/OR 4-)METHYLPHENOL	2000U	4-NITROANILINE
400UJ	N-NITROSODI-N-PROPYLAMINE	2000U	2-METHYL-4,6-DINITROPHENOL
400U	HEXACHLOROETHANE	400U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
400UJ	NITROBENZENE	400U	4-BROMOPHENYL PHENYL ETHER
400U	ISOPHORONE	400U	HEXACHLOROBENZENE (HCB)
400U	2-NITROPHENOL	2000U	PENTACHLOROPHENOL
400U	2,4-DIMETHYLPHENOL	400U	PHENANTHRENE
2000U	BENZOIC ACID	400U	ANTHRACENE
400U	BIS(2-CHLOROETHOXY) METHANE	400U	DI-N-BUTYLPHTHALATE
400U	2,4-DICHLOROPHENOL	45J	FLUORANTHENE
400U	1,2,4-TRICHLOROBENZENE	400U	PYRENE
400U	NAPHTHALENE	400U	BENZYL BUTYL PHTHALATE
400U	4-CHLOROANILINE	810U	3,3'-DICHLOROBENZIDINE
400UJ	HEXACHLOROBUTADIENE	400U	BENZO(A)ANTHRACENE
400U	4-CHLORO-3-METHYLPHENOL	400U	CHRYSENE
400U	2-METHYLNAPHTHALENE	400U	BIS(2-ETHYLHEXYL) PHTHALATE
400U	HEXACHLOROCYCLOPENTADIENE (HCCP)	400U	DI-N-OCTYLPHTHALATE
400U	2,4,6-TRICHLOROPHENOL	400UJ	BENZO(B AND/OR K)FLUORANTHENE
2000U	2,4,5-TRICHLOROPHENOL	400U	BENZO-A-PYRENE
400U	2-CHLORONAPHTHALENE	400U	INDENO (1,2,3-CD) PYRENE
2000UJ	2-NITROANILINE	400U	DIBENZO(A,H)ANTHRACENE
400U	DIMETHYL PHTHALATE	400U	BENZO(GHI)PERYLENE
400U	ACENAPHTHYLENE	18	PERCENT MOISTURE
400U	2,6-DINITROTOLUENE		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26415 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-03 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J413

UG/L	ANALYTICAL RESULTS	UG/L	ANALYTICAL RESULTS
20U	PHENOL	100U	3-NITROANILINE
20U	BIS(2-CHLOROETHYL) ETHER	20U	ACENAPHTHENE
20U	2-CHLOROPHENOL	100UJ	2,4-DINITROPHENOL
20U	1,3-DICHLOROBENZENE	100UJ	4-NITROPHENOL
20U	1,4-DICHLOROBENZENE	20U	DIBENZOFURAN
20U	BENZYL ALCOHOL	20U	2,4-DINITROTOLUENE
20U	1,2-DICHLOROBENZENE	20U	DIETHYL PHTHALATE
20U	2-METHYLPHENOL	20U	4-CHLOROPHENYL PHENYL ETHER
20UJ	BIS(2-CHLOROISOPROPYL) ETHER	20U	FLUORENE
20U	(3-AND/OR 4-)METHYLPHENOL	100U	4-NITROANILINE
20UJ	N-NITROSODI-N-PROPYLAMINE	100U	2-METHYL-4,6-DINITROPHENOL
20U	HEXACHLOROETHANE	20U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20UJ	NITROBENZENE	20U	4-BROMOPHENYL PHENYL ETHER
20UJ	ISOPHORONE	20UJ	HEXACHLOROBENZENE (HCB)
20U	2-NITROPHENOL	100U	PENTACHLOROPHENOL
20UJ	2,4-DIMETHYLPHENOL	20U	PHENANTHRENE
100UJ	BENZOIC ACID	20U	ANTHRACENE
20UJ	BIS(2-CHLOROETHOXY) METHANE	20UJ	DI-N-BUTYLPHTHALATE
20U	2,4-DICHLOROPHENOL	20U	FLUORANTHENE
20U	1,2,4-TRICHLOROBENZENE	20U	PYRENE
20U	NAPHTHALENE	20U	BENZYL BUTYL PHTHALATE
20UJ	4-CHLOROANILINE	40U	3,3'-DICHLOROBENZIDINE
20U	HEXACHLOROBUTADIENE	20U	BENZO(A)ANTHRACENE
20U	4-CHLORO-3-METHYLPHENOL	20U	CHRYSENE
20U	2-METHYLNAPHTHALENE	20UJ	BIS(2-ETHYLHEXYL) PHTHALATE
20U	HEXACHLOROCYCLOPENTADIENE (HCCP)	20U	DI-N-OCTYLPHTHALATE
20U	2,4,6-TRICHLOROPHENOL	20U	BENZO(B AND/OR K)FLUORANTHENE
100U	2,4,5-TRICHLOROPHENOL	20U	BENZO-A-PYRENE
20U	2-CHLORONAPHTHALENE	20U	INDENO (1,2,3-CD) PYRENE
100UJ	2-NITROANILINE	20UJ	DIBENZO(A,H)ANTHRACENE
20U	DIMETHYL PHTHALATE	20U	BENZO(GHI)PERYLENE
20U	ACENAPHTHYLENE		
20U	2,6-DINITROTOLUENE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26416 SAMPLE TYPE: SEDIM
SOURCE: CHAMPION INTERNATION
STATION ID: SD-03
PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: J412

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
420U	PHENOL	2100U	3-NITROANILINE
420U	BIS(2-CHLOROETHYL) ETHER	420U	ACENAPHTHENE
420U	2-CHLOROPHENOL	2100UJ	2,4-DINITROPHENOL
420U	1,3-DICHLOROBENZENE	2100UJ	4-NITROPHENOL
420U	1,4-DICHLOROBENZENE	420U	DIBENZOFURAN
420U	BENZYL ALCOHOL	420U	2,4-DINITROTOLUENE
420U	1,2-DICHLOROBENZENE	420U	DIETHYL PHTHALATE
420U	2-METHYLPHENOL	420U	4-CHLOROPHENYL PHENYL ETHER
420U	BIS(2-CHLOROISOPROPYL) ETHER	420U	FLUORENE
420U	(3-AND/OR 4-)METHYLPHENOL	2100U	4-NITROANILINE
420U	N-NITROSODI-N-PROPYLAMINE	2100U	2-METHYL-4,6-DINITROPHENOL
420U	HEXACHLOROETHANE	420U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
420U	NITROBENZENE	420U	4-BROMOPHENYL PHENYL ETHER
420U	ISOPHORONE	420U	HEXACHLOROBENZENE (HCB)
420U	2-NITROPHENOL	2100U	PENTACHLOROPHENOL
420U	2,4-DIMETHYLPHENOL	420U	PHENANTHRENE
2100UJ	BENZOIC ACID	420U	ANTHRACENE
420U	BIS(2-CHLOROETHOXY) METHANE	420U	DI-N-BUTYLPHTHALATE
420U	2,4-DICHLOROPHENOL	420U	FLUORANTHENE
420U	1,2,4-TRICHLOROBENZENE	420U	PYRENE
420U	NAPHTHALENE	420U	BENZYL BUTYL PHTHALATE
420UJ	4-CHLOROANILINE	850U	3,3'-DICHLOROBENZIDINE
420UJ	HEXACHLOROBUTADIENE	420U	BENZO(A)ANTHRACENE
420U	4-CHLORO-3-METHYLPHENOL	420U	CHRYSENE
420U	2-METHYLNAPHTHALENE	420U	BIS(2-ETHYLHEXYL) PHTHALATE
420UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)	420U	DI-N-OCTYLPHTHALATE
420U	2,4,6-TRICHLOROPHENOL	420U	BENZO(B AND/OR K)FLUORANTHENE
2100U	2,4,5-TRICHLOROPHENOL	420U	BENZO-A-PYRENE
420U	2-CHLORONAPHTHALENE	420U	INDENO (1,2,3-CD) PYRENE
2100U	2-NITROANILINE	420U	DIBENZO(A,H)ANTHRACENE
420U	DIMETHYL PHTHALATE	420U	BENZO(GHI)PERYLENE
420U	ACENAPHTHYLENE	22	PERCENT MOISTURE
420U	2,6-DINITROTOLUENE		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26417 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: CS-02

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J414

UG/KG	ANALYTICAL RESULTS
1800U	PHENOL
1800U	BIS(2-CHLOROETHYL) ETHER
1800U	2-CHLOROPHENOL
1800U	1,3-DICHLOROBENZENE
1800U	1,4-DICHLOROBENZENE
1800U	BENZYL ALCOHOL
1800U	1,2-DICHLOROBENZENE
1800U	2-METHYLPHENOL
1800U	BIS(2-CHLOROISOPROPYL) ETHER
1800U	(3-AND/OR 4-)METHYLPHENOL
1800U	N-NITROSODI-N-PROPYLAMINE
1800U	HEXACHLOROETHANE
1800U	NITROBENZENE
1800U	ISOPHORONE
1800U	2-NITROPHENOL
1800U	2,4-DIMETHYLPHENOL
8900UJ	BENZOIC ACID
1800U	BIS(2-CHLOROETHOXY) METHANE
1800U	2,4-DICHLOROPHENOL
1800U	1,2,4-TRICHLOROBENZENE
830J	NAPHTHALENE
1800UJ	4-CHLOROANILINE
1800UJ	HEXACHLOROBUTADIENE
1800U	4-CHLORO-3-METHYLPHENOL
370J	2-METHYLNAPHTHALENE
1800U	HEXACHLOROCYCLOPENTADIENE (HCCP)
1800U	2,4,6-TRICHLOROPHENOL
8900U	2,4,5-TRICHLOROPHENOL
1800U	2-CHLORONAPHTHALENE
8900U	2-NITROANILINE
1800U	DIMETHYL PHTHALATE
1800U	ACENAPHTHYLENE
1800U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
8900U	3-NITROANILINE
760J	ACENAPHTHENE
8900UJ	2,4-DINITROPHENOL
8900UJ	4-NITROPHENOL
460J	DIBENZOFURAN
1800U	2,4-DINITROTOLUENE
1800U	DIETHYL PHTHALATE
1800U	4-CHLOROPHENYL PHENYL ETHER
760J	FLUORENE
8900U	4-NITROANILINE
8900U	2-METHYL-4,6-DINITROPHENOL
1800U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
1800U	4-BROMOPHENYL PHENYL ETHER
1800U	HEXACHLOROBENZENE (HCB)
9500	PENTACHLOROPHENOL
7000	PHENANTHRENE
1400J	ANTHRACENE
460J	DI-N-BUTYLPHTHALATE
10000	FLUORANTHENE
6100	PYRENE
1800U	BENZYL BUTYL PHTHALATE
3700U	3,3'-DICHLOROBENZIDINE
4100	BENZO(A)ANTHRACENE
4700	CHRYSENE
90000	BIS(2-ETHYLHEXYL) PHTHALATE
840J	DI-N-OCTYLPHTHALATE
8400J	BENZO(B AND/OR K)FLUORANTHENE
3300	BENZO-A-PYRENE
1800J	INDENO (1,2,3-CD) PYRENE
800J	DIBENZO(A,H)ANTHRACENE
1800J	BENZO(GHI)PERYLENE
10	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26418 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-03

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J416

UG/KG	ANALYTICAL RESULTS
680U	PHENOL
680U	BIS(2-CHLOROETHYL) ETHER
680U	2-CHLOROPHENOL
680U	1,3-DICHLOROBENZENE
680U	1,4-DICHLOROBENZENE
680U	BENZYL ALCOHOL
680U	1,2-DICHLOROBENZENE
680U	2-METHYLPHENOL
680U	BIS(2-CHLOROISOPROPYL) ETHER
680U	(3-AND/OR 4-)METHYLPHENOL
680U	N-NITROSODI-N-PROPYLAMINE
680U	HEXACHLOROETHANE
680U	NITROBENZENE
680U	ISOPHORONE
680U	2-NITROPHENOL
680U	2,4-DIMETHYLPHENOL
3300UJ	BENZOIC ACID
680U	BIS(2-CHLOROETHOXY) METHANE
680U	2,4-DICHLOROPHENOL
680U	1,2,4-TRICHLOROBENZENE
680U	NAPHTHALENE
680U	4-CHLOROANILINE
680UJ	HEXACHLOROBUTADIENE
680U	4-CHLORO-3-METHYLPHENOL
680U	2-METHYLNAPHTHALENE
680UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)
680U	2,4,6-TRICHLOROPHENOL
3300U	2,4,5-TRICHLOROPHENOL
680U	2-CHLORONAPHTHALENE
3300U	2-NITROANILINE
680U	DIMETHYL PHTHALATE
680U	ACENAPHTHYLENE
680U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
3300U	3-NITROANILINE
680U	ACENAPHTHENE
3300UJ	2,4-DINITROPHENOL
3300U	4-NITROPHENOL
680U	DIBENZOFURAN
680U	2,4-DINITROTOLUENE
680U	DIETHYL PHTHALATE
680U	4-CHLOROPHENYL PHENYL ETHER
680U	FLUORENE
3300U	4-NITROANILINE
3300U	2-METHYL-4,6-DINITROPHENOL
680U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
680U	4-BROMOPHENYL PHENYL ETHER
680U	HEXACHLOROBENZENE (HCB)
3300U	PENTACHLOROPHENOL
680U	PHENANTHRENE
680U	ANTHRACENE
680U	DI-N-BUTYLPHTHALATE
180J	FLUORANTHENE
190J	PYRENE
680U	BENZYL BUTYL PHTHALATE
1400UJ	3,3'-DICHLOROBENZIDINE
680U	BENZO(A)ANTHRACENE
680U	CHRYSENE
6000U	BIS(2-ETHYLHEXYL) PHTHALATE
680J	DI-N-OCTYLPHTHALATE
680U	BENZO(B AND/OR K)FLUORANTHENE
680U	BENZO-A-PYRENE
680U	INDENO (1,2,3-CD) PYRENE
680UJ	DIBENZO(A,H)ANTHRACENE
680U	BENZO(GHI)PERYLENE
3	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERI

AL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26419 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SB-03 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J417

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
370U	PHENOL	1800U	3-NITROANILINE
370U	BIS(2-CHLOROETHYL) ETHER	370U	ACENAPHTHENE
370U	2-CHLOROPHENOL	1800UJ	2,4-DINITROPHENOL
370U	1,3-DICHLOROBENZENE	1800U	4-NITROPHENOL
370U	1,4-DICHLOROBENZENE	370U	DIBENZOFURAN
370U	BENZYL ALCOHOL	370U	2,4-DINITROTOLUENE
370U	1,2-DICHLOROBENZENE	370U	DIETHYL PHTHALATE
370U	2-METHYLPHENOL	370U	4-CHLOROPHENYL PHENYL ETHER
370U	BIS(2-CHLOROISOPROPYL) ETHER	370U	FLUORENE
370U	(3-AND/OR 4-)METHYLPHENOL	1800U	4-NITROANILINE
370U	N-NITROSODI-N-PROPYLAMINE	1800U	2-METHYL-4,6-DINITROPHENOL
370U	HEXACHLOROETHANE	370U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
370U	NITROBENZENE	370U	4-BROMOPHENYL PHENYL ETHER
370U	ISOPHORONE	370U	HEXACHLOROBENZENE (HCB)
370U	2-NITROPHENOL	1800U	PENTACHLOROPHENOL
370U	2,4-DIMETHYLPHENOL	370U	PHENANTHRENE
1800UJ	BENZOIC ACID	370U	ANTHRACENE
370U	BIS(2-CHLOROETHOXY) METHANE	370U	DI-N-BUTYLPHTHALATE
370U	2,4-DICHLOROPHENOL	370U	FLUORANTHENE
370U	1,2,4-TRICHLOROBENZENE	370U	PYRENE
370U	NAPHTHALENE	370U	BENZYL BUTYL PHTHALATE
370U	4-CHLOROANILINE	740UJ	3,3'-DICHLOROBENZIDINE
370UJ	HEXACHLOROBUTADIENE	370U	BENZO(A)ANTHRACENE
370U	4-CHLORO-3-METHYLPHENOL	370U	CHRYSENE
370U	2-METHYLNAPHTHALENE	370U	BIS(2-ETHYLHEXYL) PHTHALATE
370UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)	370U	DI-N-OCTYLPHTHALATE
370U	2,4,6-TRICHLOROPHENOL	370U	BENZO(B AND/OR K)FLUORANTHENE
1800U	2,4,5-TRICHLOROPHENOL	370U	BENZO-A-PYRENE
370U	2-CHLORONAPHTHALENE	370U	INDENO (1,2,3-CD) PYRENE
1800U	2-NITROANILINE	370UJ	DIBENZO(A,H)ANTHRACENE
370U	DIMETHYL PHTHALATE	370U	BENZO(GHI)PERYLENE
370U	ACENAPHTHYLENE	11	PERCENT MOISTURE
370U	2,6-DINITROTOLUENE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26420 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J418

UG/L	ANALYTICAL RESULTS
20U	PHENOL
20U	BIS(2-CHLOROETHYL) ETHER
20U	2-CHLOROPHENOL
20U	1,3-DICHLOROBENZENE
20U	1,4-DICHLOROBENZENE
20U	BENZYL ALCOHOL
20U	1,2-DICHLOROBENZENE
20U	2-METHYLPHENOL
20UJ	BIS(2-CHLOROISOPROPYL) ETHER
20U	(3-AND/OR 4-)METHYLPHENOL
20UJ	N-NITROSODI-N-PROPYLAMINE
20U	HEXACHLOROETHANE
20UJ	NITROBENZENE
20UJ	ISOPHORONE
20U	2-NITROPHENOL
20UJ	2,4-DIMETHYLPHENOL
100UJ	BENZOIC ACID
20UJ	BIS(2-CHLOROETHOXY) METHANE
20U	2,4-DICHLOROPHENOL
20U	1,2,4-TRICHLOROBENZENE
20U	NAPHTHALENE
20UJ	4-CHLOROANILINE
20U	HEXACHLOROBUTADIENE
20U	4-CHLORO-3-METHYLPHENOL
20U	2-METHYLNAPHTHALENE
20U	HEXACHLOROCYCLOPENTADIENE (HCCP)
20U	2,4,6-TRICHLOROPHENOL
100U	2,4,5-TRICHLOROPHENOL
20U	2-CHLORONAPHTHALENE
100UJ	2-NITROANILINE
20U	DIMETHYL PHTHALATE
20U	ACENAPHTHYLENE
20U	2,6-DINITROTOLUENE

UG/L	ANALYTICAL RESULTS
100U	3-NITROANILINE
20U	ACENAPHTHENE
100UJ	2,4-DINITROPHENOL
100UJ	4-NITROPHENOL
20U	DIBENZOFURAN
20U	2,4-DINITROTOLUENE
20U	DIETHYL PHTHALATE
20U	4-CHLOROPHENYL PHENYL ETHER
20U	FLUORENE
100U	4-NITROANILINE
100U	2-METHYL-4,6-DINITROPHENOL
3J	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
20U	4-BROMOPHENYL PHENYL ETHER
20UJ	HEXACHLOROBENZENE (HCB)
100U	PENTACHLOROPHENOL
20U	PHENANTHRENE
20U	ANTHRACENE
3J	DI-N-BUTYLPHTHALATE
20U	FLUORANTHENE
20U	PYRENE
20U	BENZYL BUTYL PHTHALATE
40U	3,3'-DICHLOROBENZIDINE
20U	BENZO(A)ANTHRACENE
20U	CHRYSENE
20UJ	BIS(2-ETHYLHEXYL) PHTHALATE
20U	DI-N-OCTYLPHTHALATE
20U	BENZO(B AND/OR K)FLUORANTHENE
20U	BENZO-A-PYRENE
20U	INDENO (1,2,3-CD) PYRENE
20UJ	DIBENZO(A,H)ANTHRACENE
20U	BENZO(GHI)PERYLENE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26421 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NO.: 9702 SAS NO.: D. NO.: J415

UG/KG	ANALYTICAL RESULTS
410U	PHENOL
410U	BIS(2-CHLOROETHYL) ETHER
410U	2-CHLOROPHENOL
410U	1,3-DICHLOROBENZENE
410U	1,4-DICHLOROBENZENE
410U	BENZYL ALCOHOL
410U	1,2-DICHLOROBENZENE
410U	2-METHYLPHENOL
410U	BIS(2-CHLOROISOPROPYL) ETHER
63J	(3-AND/OR 4-)METHYLPHENOL
410U	N-NITROSODI-N-PROPYLAMINE
410U	HEXACHLOROETHANE
410U	NITROBENZENE
410U	ISOPHORONE
410U	2-NITROPHENOL
410U	2,4-DIMETHYLPHENOL
2000UJ	BENZOIC ACID
410U	BIS(2-CHLOROETHOXY) METHANE
410U	2,4-DICHLOROPHENOL
410U	1,2,4-TRICHLOROBENZENE
410U	NAPHTHALENE
410U	4-CHLOROANILINE
410UJ	HEXACHLOROBUTADIENE
410U	4-CHLORO-3-METHYLPHENOL
410U	2-METHYLNAPHTHALENE
410UJ	HEXACHLOROCYCLOPENTADIENE (HCCP)
410U	2,4,6-TRICHLOROPHENOL
2000U	2,4,5-TRICHLOROPHENOL
410U	2-CHLORONAPHTHALENE
2000U	2-NITROANILINE
410U	DIMETHYL PHTHALATE
410U	ACENAPHTHYLENE
410U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
2000U	3-NITROANILINE
410U	ACENAPHTHENE
2000UJ	2,4-DINITROPHENOL
2000U	4-NITROPHENOL
410U	DIBENZOFURAN
410U	2,4-DINITROTOLUENE
410U	DIETHYL PHTHALATE
410U	4-CHLOROPHENYL PHENYL ETHER
410U	FLUORENE
2000U	4-NITROANILINE
2000U	2-METHYL-4,6-DINITROPHENOL
410U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
410U	4-BROMOPHENYL PHENYL ETHER
410U	HEXACHLOROBENZENE (HCB)
2000U	PENTACHLOROPHENOL
410U	PHENANTHRENE
410U	ANTHRACENE
410U	DI-N-BUTYLPHTHALATE
410U	FLUORANTHENE
410U	PYRENE
410U	BENZYL BUTYL PHTHALATE
820UJ	3,3'-DICHLOROBENZIDINE
410U	BENZO(A)ANTHRACENE
410U	CHRYSENE
410U	BIS(2-ETHYLHEXYL) PHTHALATE
410U	DI-N-OCTYLPHTHALATE
410U	BENZO(B AND/OR K)FLUORANTHENE
410U	BENZO-A-PYRENE
410U	INDENO (1,2,3-CD) PYRENE
410UJ	DIBENZO(A,H)ANTHRACENE
410U	BENZO(GHI)PERYLENE
19	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26422 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SB-02 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J419

UG/KG	ANALYTICAL RESULTS
360U	PHENOL
360U	BIS(2-CHLOROETHYL) ETHER
360U	2-CHLOROPHENOL
360U	1,3-DICHLOROBENZENE
360U	1,4-DICHLOROBENZENE
360U	BENZYL ALCOHOL
360U	1,2-DICHLOROBENZENE
360U	2-METHYLPHENOL
360UJ	BIS(2-CHLOROISOPROPYL) ETHER
360U	(3-AND/OR 4-)METHYLPHENOL
360UJ	N-NITROSODI-N-PROPYLAMINE
360U	HEXACHLOROETHANE
360UJ	NITROBENZENE
360U	ISOPHORONE
360U	2-NITROPHENOL
360U	2,4-DIMETHYLPHENOL
1700U	BENZOIC ACID
360U	BIS(2-CHLOROETHOXY) METHANE
360U	2,4-DICHLOROPHENOL
360U	1,2,4-TRICHLOROBENZENE
360U	NAPHTHALENE
360U	4-CHLOROANILINE
360UJ	HEXACHLOROBUTADIENE
360U	4-CHLORO-3-METHYLPHENOL
360U	2-METHYLNAPHTHALENE
360U	HEXACHLOROCYCLOPENTADIENE (HCCP)
360U	2,4,6-TRICHLOROPHENOL
1700U	2,4,5-TRICHLOROPHENOL
360U	2-CHLORONAPHTHALENE
1700UJ	2-NITROANILINE
360U	DIMETHYL PHTHALATE
360U	ACENAPHTHYLENE
360U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1700U	3-NITROANILINE
360U	ACENAPHTHENE
1700UJ	2,4-DINITROPHENOL
1700UJ	4-NITROPHENOL
360U	DIBENZOFURAN
360U	2,4-DINITROTOLUENE
360U	DIETHYL PHTHALATE
360U	4-CHLOROPHENYL PHENYL ETHER
360U	FLUORENE
1700U	4-NITROANILINE
1700U	2-METHYL-4,6-DINITROPHENOL
360U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
360U	4-BROMOPHENYL PHENYL ETHER
1700U	HEXACHLOROBENZENE (HCB)
360U	PENTACHLOROPHENOL
360U	PHENANTHRENE
360U	ANTHRACENE
360U	DI-N-BUTYLPHTHALATE
360U	FLUORANTHENE
360U	PYRENE
360U	BENZYL BUTYL PHTHALATE
720U	3,3'-DICHLOROBENZIDINE
360U	BENZO(A)ANTHRACENE
360U	CHRYSENE
360U	BIS(2-ETHYLHEXYL) PHTHALATE
360U	DI-N-OCTYLPHTHALATE
360UJ	BENZO(B AND/OR K)FLUORANTHENE
360U	BENZO-A-PYRENE
360U	INDENO (1,2,3-CD) PYRENE
360U	DIBENZO(A,H)ANTHRACENE
360U	BENZO(GHI)PERYLENE
8	PERCENT MOISTURE

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26424 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-05 REGION IV QC BLANK COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J426

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
390U	PHENOL	1900U	3-NITROANILINE
390U	BIS(2-CHLOROETHYL) ETHER	390U	ACENAPHTHENE
390U	2-CHLOROPHENOL	1900U	2,4-DINITROPHENOL
390U	1,3-DICHLOROBENZENE	1900U	4-NITROPHENOL
390U	1,4-DICHLOROBENZENE	390U	DIBENZOFURAN
390U	BENZYL ALCOHOL	390U	2,4-DINITROTOLUENE
390U	1,2-DICHLOROBENZENE	390U	DIETHYL PHTHALATE
390U	2-METHYLPHENOL	390U	4-CHLOROPHENYL PHENYL ETHER
390U	BIS(2-CHLOROISOPROPYL) ETHER	390U	FLUORENE
390U	(3-AND/OR 4-)METHYLPHENOL	1900U	4-NITROANILINE
390U	N-NITROSODI-N-PROPYLAMINE	1900U	2-METHYL-4,6-DINITROPHENOL
390U	HEXACHLOROETHANE	390U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
390U	NITROBENZENE	390U	4-BROMOPHENYL PHENYL ETHER
390U	ISOPHORONE	390U	HEXACHLOROBENZENE (HCB)
390U	2-NITROPHENOL	1900U	PENTACHLOROPHENOL
390U	2,4-DIMETHYLPHENOL	51J	PHENANTHRENE
1900U	BENZOIC ACID	390U	ANTHRACENE
390U	BIS(2-CHLOROETHOXY) METHANE	390U	DI-N-BUTYLPHTHALATE
390U	2,4-DICHLOROPHENOL	390U	FLUORANTHENE
390U	1,2,4-TRICHLOROBENZENE	390U	PYRENE
390U	NAPHTHALENE	390U	BENZYL BUTYL PHTHALATE
390U	4-CHLOROANILINE	780U	3,3'-DICHLOROBENZIDINE
390U	HEXACHLOROBUTADIENE	390U	BENZO(A)ANTHRACENE
390U	4-CHLORO-3-METHYLPHENOL	390U	CHRYSENE
390U	2-METHYLNAPHTHALENE	180J	BIS(2-ETHYLHEXYL) PHTHALATE
390U	HEXACHLOROCYCLOPENTADIENE (HCCP)	390U	DI-N-OCTYLPHTHALATE
390U	2,4,6-TRICHLOROPHENOL	390U	BENZO(B AND/OR K)FLUORANTHENE
1900U	2,4,5-TRICHLOROPHENOL	390U	BENZO-A-PYRENE
390U	2-CHLORONAPHTHALENE	390U	INDENO (1,2,3-CD) PYRENE
1900U	2-NITROANILINE	390U	DIBENZO(A,H)ANTHRACENE
390U	DIMETHYL PHTHALATE	390U	BENZO(GHI)PERYLENE
390U	ACENAPHTHYLENE	15	PERCENT MOISTURE
390U	2,6-DINITROTOLUENE		

REMARKS ***REMARKS***

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

EXTRACTABLE ORGANICS DATA REPORT 07/12/88

PROJECT NO. 88-373 SAMPLE NO. 26427 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-04 COLLECTION START: 06/02/88 STOP: 00/00/00

CASE NO.: 9702 SAS NO.: D. NO.: J420

UG/KG	ANALYTICAL RESULTS
340U	PHENOL
340U	BIS(2-CHLOROETHYL) ETHER
340U	2-CHLOROPHENOL
340U	1,3-DICHLOROBENZENE
340U	1,4-DICHLOROBENZENE
340U	BENZYL ALCOHOL
340U	1,2-DICHLOROBENZENE
340U	2-METHYLPHENOL
340UJ	BIS(2-CHLOROISOPROPYL) ETHER
340U	(3-AND/OR 4-)METHYLPHENOL
340UJ	N-NITROSODI-N-PROPYLAMINE
340U	HEXACHLOROETHANE
340UJ	NITROBENZENE
340U	ISOPHORONE
340U	2-NITROPHENOL
340U	2,4-DIMETHYLPHENOL
250J	BENZOIC ACID
340U	BIS(2-CHLOROETHOXY) METHANE
340U	2,4-DICHLOROPHENOL
340U	1,2,4-TRICHLOROBENZENE
340U	NAPHTHALENE
340U	4-CHLOROANILINE
340UJ	HEXACHLOROBUTADIENE
340U	4-CHLORO-3-METHYLPHENOL
340U	2-METHYLNAPHTHALENE
340U	HEXACHLOROCYCLOPENTADIENE (HCCP)
340U	2,4,6-TRICHLOROPHENOL
1700U	2,4,5-TRICHLOROPHENOL
340U	2-CHLORONAPHTHALENE
1700UJ	2-NITROANILINE
340U	DIMETHYL PHTHALATE
340U	ACENAPHTHYLENE
340U	2,6-DINITROTOLUENE

UG/KG	ANALYTICAL RESULTS
1700U	3-NITROANILINE
340U	ACENAPHTHENE
1700UJ	2,4-DINITROPHENOL
1700UJ	4-NITROPHENOL
340U	DIBENZOFURAN
340U	2,4-DINITROTOLUENE
340U	DIETHYL PHTHALATE
340U	4-CHLOROPHENYL PHENYL ETHER
340U	FLUORENE
1700U	4-NITROANILINE
1700U	2-METHYL-4,6-DINITROPHENOL
340U	N-NITROSODIPHENYLAMINE/DIPHENYLAMINE
340U	4-BROMOPHENYL PHENYL ETHER
340U	HEXACHLOROBENZENE (HCB)
1700U	PENTACHLOROPHENOL
340U	PHENANTHRENE
340U	ANTHRACENE
340U	DI-N-BUTYLPHTHALATE
67J	FLUORANTHENE
53J	PYRENE
340U	BENZYL BUTYL PHTHALATE
690U	3,3'-DICHLOROBENZIDINE
340U	BENZO(A)ANTHRACENE
56J	CHRYSENE
5100	BIS(2-ETHYLHEXYL) PHTHALATE
340U	DI-N-OCTYLPHTHALATE
340UJ	BENZO(B AND/OR K)FLUORANTHENE
340U	BENZO-A-PYRENE
340U	INDENO (1,2,3-CD) PYRENE
340U	DIBENZO(A,H)ANTHRACENE
340U	BENZO(GHI)PERYLENE
4	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 88-373	SAMPLE NO. 26416	SAMPLE TYPE: SEDIM
PROG ELEM: NSF	COLLECTED BY: A SPAUGH	
SOURCE: CHAMPION INTERNATION		
CITY: ORANGEBURG	ST: SC	
STATION ID: SD-03		
COLLECTION START: 06/02/88	STOP: 00/00/00	
CASE.NO.: 9702	SAS NO.:	
D. NO.: J412	MD NO:	

RESULTS	UNITS	COMPOUND
600JN	UG/KG	BROMOHEXANE
500J	UG/KG	1 UNIDENTIFIED COMPOUND

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26417 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: CS-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.: D. NO.: J414 MD NO:

RESULTS	UNITS	COMPOUND
400JN	UG/KG	CARBAZOLE
40000J	UG/KG	13 UNIDENTIFIED COMPOUNDS
3000JN	UG/KG	BENZOFLUORANTHENE (NOT B OR K)

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26418 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.: D. NO.: J416 MD NO:

RESULTS	UNITS	COMPOUND
N	UG/KG	PETROLEUM PRODUCT
10000J	UG/KG	8 UNIDENTIFIED COMPOUNDS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26421 SAMPLE TYPE: SEDIM
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SD-02
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:
D. NO.: J415 MD NO:

RESULTS	UNITS	COMPOUND
1000JN	UG/KG	BROMOHEXANE
20000J	UG/KG	11 UNIDENTIFIED COMPOUNDS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

MISCELLANEOUS EXTRACTABLE COMPOUNDS - DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26427 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SS-04
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE.NO.: 9702 SAS NO.:
D. NO.: J420 MD NO:

RESULTS	UNITS	COMPOUND
800JN	UG/KG	BROMOHEXANE
20000J	UG/KG	17 UNIDENTIFIED COMPOUNDS
10000JN	UG/KG	PENTACOSANE

FOOTNOTES
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV
COLLEGE STATION RD.
ATHENS, GA. 30613

*****MEMORANDUM******

DATE: 07/13/88

SUBJECT: Results of Pesticide/PCB Analysis;
88-373 CHAMPION INTERNATION
ORANGEBURG SC
CASE NO: 9702

FROM: Robert W. Knight
Chief, Laboratory Evaluation/Quality Assurance Section

TO: PHIL BLACKWELL

Attached are the results of analysis of samples collected as part of the subject project.

If you have any questions please contact me.

ATTACHMENT

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26411 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-01
CASE NUMBER: 9702 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NUMBER: J409

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
8.2U	ALPHA-BHC	82U	METHOXYCHLOR
8.2U	BETA-BHC	16U	ENDRIN KETONE
8.2U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
8.2UR	GAMMA-BHC (LINDANE)	82U	GAMMA-CHLORDANE /2
8.2U	HEPTACHLOR	82U	ALPHA-CHLORDANE /2
8.2U	ALDRIN	160U	TOXAPHENE
8.2U	HEPTACHLOR EPOXIDE	82U	PCB-1016 (AROCLOR 1016)
8.2U	ENDOSULFAN I (ALPHA)	82U	PCB-1221 (AROCLOR 1221)
16U	DIELDRIN	82U	PCB-1232 (AROCLOR 1232)
16U	4,4'-DDE (P,P'-DDE)	82U	PCB-1242 (AROCLOR 1242)
16U	ENDRIN	82U	PCB-1248 (AROCLOR 1248)
16U	ENDOSULFAN II (BETA)	160U	PCB-1254 (AROCLOR 1254)
16U	4,4'-DDD (P,P'-DDD)	160U	PCB-1260 (AROCLOR 1260)
16U	ENDOSULFAN SULFATE	2	PERCENT MOISTURE
16U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES
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*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26412 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SB-01
CASE NUMBER: 9702 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NUMBER: J411

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
9.4U	ALPHA-BHC	94U	METHOXYCHLOR
9.4U	BETA-BHC	19U	ENDRIN KETONE
9.4U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
9.4UR	GAMMA-BHC (LINDANE)	94U	GAMMA-CHLORDANE /2
9.4U	HEPTACHLOR	94U	ALPHA-CHLORDANE /2
9.4U	ALDRIN	1900U	TOXAPHENE
9.4U	HEPTACHLOR EPOXIDE	94U	PCB-1016 (AROCLOR 1016)
9.4U	ENDOSULFAN I (ALPHA)	94U	PCB-1221 (AROCLOR 1221)
19U	DIELDRIN	94U	PCB-1232 (AROCLOR 1232)
19U	4,4'-DDE (P,P'-DDE)	94U	PCB-1242 (AROCLOR 1242)
19U	ENDRIN	94U	PCB-1248 (AROCLOR 1248)
19U	ENDOSULFAN II (BETA)	190U	PCB-1254 (AROCLOR 1254)
19U	4,4'-DDD (P,P'-DDD)	190U	PCB-1260 (AROCLOR 1260)
19U	ENDOSULFAN SULFATE	15	PERCENT MOISTURE
19U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26413 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-01 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J410

UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC
0.050U	BETA-BHC
0.050U	DELTA-BHC
0.050UR	GAMMA-BHC (LINDANE)
0.050U	HEPTACHLOR
0.050U	ALDRIN
0.050U	HEPTACHLOR EPOXIDE
0.050U	ENDOSULFAN I (ALPHA)
0.10U	DIELDRIN
0.10U	4,4'-DDE (P,P'-DDE)
0.10U	ENDRIN
0.10U	ENDOSULFAN II (BETA)
0.10U	4,4'-DDD (P,P'-DDD)
0.10U	ENDOSULFAN SULFATE
0.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
0.50U	METHOXYCHLOR
0.10U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
0.50U	GAMMA-CHLORDANE /2
0.50U	ALPHA-CHLORDANE /2
1.0U	TOXAPHENE
0.50U	PCB-1016 (AROCLOR 1016)
0.50U	PCB-1221 (AROCLOR 1221)
0.50U	PCB-1232 (AROCLOR 1232)
0.50U	PCB-1242 (AROCLOR 1242)
0.50U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26414 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-01 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J408

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
9.8U	ALPHA-BHC	98U	METHOXYCHLOR
9.8U	BETA-BHC	20U	ENDRIN KETONE
9.8U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
9.8UR	GAMMA-BHC (LINDANE)	98U	GAMMA-CHLORDANE /2
9.8U	HEPTACHLOR	98U	ALPHA-CHLORDANE /2
9.8U	ALDRIN	200U	TOXAPHENE
9.8U	HEPTACHLOR EPOXIDE	98U	PCB-1016 (AROCLOR 1016)
9.8U	ENDOSULFAN I (ALPHA)	98U	PCB-1221 (AROCLOR 1221)
20U	DIELDRIN	98U	PCB-1232 (AROCLOR 1232)
20U	4,4'-DDE (P,P'-DDE)	98U	PCB-1242 (AROCLOR 1242)
20U	ENDRIN	98U	PCB-1248 (AROCLOR 1248)
20U	ENDOSULFAN II (BETA)	200U	PCB-1254 (AROCLOR 1254)
20U	4,4'-DDD (P,P'-DDD)	200U	PCB-1260 (AROCLOR 1260)
20U	ENDOSULFAN SULFATE	18	PERCENT MOISTURE
20U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26415 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SW-03 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J413

UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC
0.050U	BETA-BHC
0.050U	DELTA-BHC
0.050UR	GAMMA-BHC (LINDANE)
0.050U	HEPTACHLOR
0.050U	ALDRIN
0.050U	HEPTACHLOR EPOXIDE
0.050U	ENDOSULFAN I (ALPHA)
0.10U	DIELDRIN
0.10U	4,4'-DDE (P,P'-DDE)
0.10U	ENDRIN
0.10U	ENDOSULFAN II (BETA)
0.10U	4,4'-DDD (P,P'-DDD)
0.10U	ENDOSULFAN SULFATE
0.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
0.50U	METHOXYCHLOR
0.10U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
0.50U	GAMMA-CHLORDANE /2
0.50U	ALPHA-CHLORDANE /2
1.0U	TOXAPHENE
0.50U	PCB-1016 (AROCLOR 1016)
0.50U	PCB-1221 (AROCLOR 1221)
0.50U	PCB-1232 (AROCLOR 1232)
0.50U	PCB-1242 (AROCLOR 1242)
0.50U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26416 SAMPLE TYPE: SEDIM
SOURCE: CHAMPION INTERNATION
STATION ID: SD-03
CASE NUMBER: 9702 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NUMBER: J412

UG/KG	ANALYTICAL RESULTS
10U	ALPHA-BHC
10U	BETA-BHC
10U	DELTA-BHC
10UR	GAMMA-BHC (LINDANE)
10U	HEPTACHLOR
10U	ALDRIN
10U	HEPTACHLOR EPOXIDE
10U	ENDOSULFAN I (ALPHA)
20U	DIELDRIN
20U	4,4'-DDE (P,P'-DDE)
20U	ENDRIN
20U	ENDOSULFAN II (BETA)
20U	4,4'-DDD (P,P'-DDD)
20U	ENDOSULFAN SULFATE
20U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
100U	METHOXYCHLOR
20U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
100U	GAMMA-CHLORDANE /2
100U	ALPHA-CHLORDANE /2
200U	TOXAPHENE
100U	PCB-1016 (AROCLOR 1016)
100U	PCB-1221 (AROCLOR 1221)
100U	PCB-1232 (AROCLOR 1232)
100U	PCB-1242 (AROCLOR 1242)
100U	PCB-1248 (AROCLOR 1248)
200U	PCB-1254 (AROCLOR 1254)
200U	PCB-1260 (AROCLOR 1260)
22	PERCENT MOISTURE

REMARKS

REMARKS

FOOTNOTES
*A-AVERAGE VALUE *NA-NOT ANALYZED *NAI-INTERFERENCES *J-ESTIMATED VALUE *N-PRESUMPTIVE EVIDENCE OF PRESENCE OF MATERIAL
*K-ACTUAL VALUE IS KNOWN TO BE LESS THAN VALUE GIVEN *L-ACTUAL VALUE IS KNOWN TO BE GREATER THAN VALUE GIVEN
*U-MATERIAL WAS ANALYZED FOR BUT NOT DETECTED. THE NUMBER IS THE MINIMUM QUANTITATION LIMIT.
*R-QC INDICATES THAT DATA UNUSABLE. COMPOUND MAY OR MAY NOT BE PRESENT. RESAMPLING AND REANALYSIS IS NECESSARY FOR VERIFICATION.
*C-CONFIRMED BY GCMS 1. WHEN NO VALUE IS REPORTED, SEE CHLORDANE CONSTITUENTS.

SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26417 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: CS-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J414

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
18U	ALPHA-BHC	180U	METHOXYCHLOR
18U	BETA-BHC	36U	ENDRIN KETONE
18U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
18UR	GAMMA-BHC (LINDANE)	180U	GAMMA-CHLORDANE /2
18U	HEPTACHLOR	180U	ALPHA-CHLORDANE /2
18U	ALDRIN	360U	TOXAPHENE
18U	HEPTACHLOR EPOXIDE	180U	PCB-1016 (AROCLOR 1016)
18U	ENDOSULFAN I (ALPHA)	180U	PCB-1221 (AROCLOR 1221)
72	DIELDRIN	180U	PCB-1232 (AROCLOR 1232)
36U	4,4'-DDE (P,P'-DDE)	180U	PCB-1242 (AROCLOR 1242)
36U	ENDRIN	180U	PCB-1248 (AROCLOR 1248)
36U	ENDOSULFAN II (BETA)	360U	PCB-1254 (AROCLOR 1254)
36U	4,4'-DDD (P,P'-DDD)	360U	PCB-1260 (AROCLOR 1260)
36U	ENDOSULFAN SULFATE	10	PERCENT MOISTURE
36U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES
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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26418 SAMPLE TYPE: SOIL
SOURCE: CHAMPION INTERNATION
STATION ID: SS-03
CASE NUMBER: 9702 SAS NUMBER:

PROG ELEM: NSF COLLECTED BY: A SPAUGH
CITY: ORANGEBURG ST: SC
COLLECTION START: 06/02/88 STOP: 00/00/00
D. NUMBER: J416

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
8.2U	ALPHA-BHC	82U	METHOXYCHLOR
8.2U	BETA-BHC	16U	ENDRIN KETONE
8.2U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
8.2UR	GAMMA-BHC (LINDANE)	82U	GAMMA-CHLORDANE /2
8.2U	HEPTACHLOR	82U	ALPHA-CHLORDANE /2
8.2U	ALDRIN	160U	TOXAPHENE
8.2U	HEPTACHLOR EPOXIDE	82U	PCB-1016 (AROCLOR 1016)
8.2U	ENDOSULFAN I (ALPHA)	82U	PCB-1221 (AROCLOR 1221)
16U	DIELDRIN	82U	PCB-1232 (AROCLOR 1232)
16U	4,4'-DDE (P,P'-DDE)	82U	PCB-1242 (AROCLOR 1242)
16U	ENDRIN	82U	PCB-1248 (AROCLOR 1248)
16U	ENDOSULFAN II (BETA)	160U	PCB-1254 (AROCLOR 1254)
16U	4,4'-DDD (P,P'-DDD)	160U	PCB-1260 (AROCLOR 1260)
16U	ENDOSULFAN SULFATE	3	PERCENT MOISTURE
16U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26419 SAMPLE TYPE: SOIL
PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION
CITY: ORANGEBURG ST: SC
STATION ID: SB-03
COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER:
D. NUMBER: J417

UG/KG	ANALYTICAL RESULTS
9.0U	ALPHA-BHC
9.0U	BETA-BHC
9.0U	DELTA-BHC
9.0UR	GAMMA-BHC (LINDANE)
9.0U	HEPTACHLOR
9.0U	ALDRIN
9.0U	HEPTACHLOR EPOXIDE
9.0U	ENDOSULFAN I (ALPHA)
18U	DIELDRIN
18U	4,4'-DDE (P,P'-DDE)
18U	ENDRIN
18U	ENDOSULFAN II (BETA)
18U	4,4'-DDD (P,P'-DDD)
18U	ENDOSULFAN SULFATE
18U	4,4'-DDT (P,P'-DDT)

UG/KG	ANALYTICAL RESULTS
90U	METHOXYCHLOR
18U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
90U	GAMMA-CHLORDANE /2
90U	ALPHA-CHLORDANE /2
180U	TOXAPHENE
90U	PCB-1016 (AROCLOR 1016)
90U	PCB-1221 (AROCLOR 1221)
90U	PCB-1232 (AROCLOR 1232)
90U	PCB-1242 (AROCLOR 1242)
90U	PCB-1248 (AROCLOR 1248)
180U	PCB-1254 (AROCLOR 1254)
180U	PCB-1260 (AROCLOR 1260)
11	PERCENT MOISTURE

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.
07/12/88

PESTICIDES/PCB'S DATA REPORT

*** ***
** PROJECT NO. 88-373 SAMPLE NO. 26420 SAMPLE TYPE: SURFACEWA PROG ELEM: NSF COLLECTED BY: A SPAUGH **
** SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC **
** STATION ID: SW-02 COLLECTION START: 06/02/88 STOP: 00/00/00 **
** CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J418 **
** **
*** ***

UG/L	ANALYTICAL RESULTS
0.050U	ALPHA-BHC
0.050U	BETA-BHC
0.050U	DELTA-BHC
0.050UR	GAMMA-BHC (LINDANE)
0.050U	HEPTACHLOR
0.050U	ALDRIN
0.050U	HEPTACHLOR EPOXIDE
0.050U	ENDOSULFAN I (ALPHA)
0.10U	DIELDRIN
0.10U	4,4'-DDE (P,P'-DDE)
0.10U	ENDRIN
0.10U	ENDOSULFAN II (BETA)
0.10U	4,4'-DDD (P,P'-DDD)
0.10U	ENDOSULFAN SULFATE
0.10U	4,4'-DDT (P,P'-DDT)

UG/L	ANALYTICAL RESULTS
0.50U	METHOXYCHLOR
0.10U	ENDRIN KETONE
--	CHLORDANE (TECH. MIXTURE) /1
0.50U	GAMMA-CHLORDANE /2
0.50U	ALPHA-CHLORDANE /2
1.0U	TOXAPHENE
0.50U	PCB-1016 (AROCLOR 1016)
0.50U	PCB-1221 (AROCLOR 1221)
0.50U	PCB-1232 (AROCLOR 1232)
0.50U	PCB-1242 (AROCLOR 1242)
0.50U	PCB-1248 (AROCLOR 1248)
1.0U	PCB-1254 (AROCLOR 1254)
1.0U	PCB-1260 (AROCLOR 1260)

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26421 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-02 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J415

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
9.9U	ALPHA-BHC	99U	METHOXYCHLOR
9.9U	BETA-BHC	20U	ENDRIN KETONE
9.9U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
9.9UR	GAMMA-BHC (LINDANE)	99U	GAMMA-CHLORDANE /2
9.9U	HEPTACHLOR	99U	ALPHA-CHLORDANE /2
9.9U	ALDRIN	200U	TOXAPHENE
9.9U	HEPTACHLOR EPOXIDE	99U	PCB-1016 (AROCLOR 1016)
9.9U	ENDOSULFAN I (ALPHA)	99U	PCB-1221 (AROCLOR 1221)
20U	DIELDRIN	99U	PCB-1232 (AROCLOR 1232)
20U	4,4'-DDE (P,P'-DDE)	99U	PCB-1242 (AROCLOR 1242)
20U	ENDRIN	99U	PCB-1248 (AROCLOR 1248)
20U	ENDOSULFAN II (BETA)	200U	PCB-1254 (AROCLOR 1254)
20U	4,4'-DDD (P,P'-DDD)	200U	PCB-1260 (AROCLOR 1260)
20U	ENDOSULFAN SULFATE	19	PERCENT MOISTURE
20U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.   07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373   SAMPLE NO. 26422   SAMPLE TYPE: SOIL   PROG ELEM: NSF   COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION   CITY: ORANGEBURG   ST: SC
STATION ID: SB-02   COLLECTION START: 06/02/88   STOP: 00/00/00
CASE NUMBER: 9702   SAS NUMBER: D. NUMBER: J419

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
8.7U	ALPHA-BHC	87U	METHOXYCHLOR
8.7U	BETA-BHC	17U	ENDRIN KETONE
8.7U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
8.7UR	GAMMA-BHC (LINDANE)	87U	GAMMA-CHLORDANE /2
8.7U	HEPTACHLOR	87U	ALPHA-CHLORDANE /2
8.7U	ALDRIN	1700U	TOXAPHENE
8.7U	HEPTACHLOR EPOXIDE	87U	PCB-1016 (AROCLOR 1016)
8.7U	ENDOSULFAN I (ALPHA)	87U	PCB-1221 (AROCLOR 1221)
17U	DIELDRIN	87U	PCB-1232 (AROCLOR 1232)
17U	4,4'-DDE (P,P'-DDE)	87U	PCB-1242 (AROCLOR 1242)
17U	ENDRIN	87U	PCB-1248 (AROCLOR 1248)
17U	ENDOSULFAN II (BETA)	170U	PCB-1254 (AROCLOR 1254)
17U	4,4'-DDD (P,P'-DDD)	170U	PCB-1260 (AROCLOR 1260)
17U	ENDOSULFAN SULFATE	8	PERCENT MOISTURE
17U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

FOOTNOTES

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26424 SAMPLE TYPE: SEDIM PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SD-05 REGION IV QC BLANK COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J426

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
9.4U	ALPHA-BHC	94U	METHOXYCHLOR
9.4U	BETA-BHC	19U	ENDRIN KETONE
9.4U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
9.4U	GAMMA-BHC (LINDANE)	94U	GAMMA-CHLORDANE /2
9.4U	HEPTACHLOR	94U	ALPHA-CHLORDANE /2
9.4U	ALDRIN	190U	TOXAPHENE
9.4U	HEPTACHLOR EPOXIDE	94U	PCB-1016 (AROCLOR 1016)
9.4U	ENDOSULFAN I (ALPHA)	94U	PCB-1221 (AROCLOR 1221)
19U	DIELDRIN	94U	PCB-1232 (AROCLOR 1232)
19U	4,4'-DDE (P,P'-DDE)	94U	PCB-1242 (AROCLOR 1242)
19U	ENDRIN	94U	PCB-1248 (AROCLOR 1248)
19U	ENDOSULFAN II (BETA)	190U	PCB-1254 (AROCLOR 1254)
19U	4,4'-DDD (P,P'-DDD)	190U	PCB-1260 (AROCLOR 1260)
19U	ENDOSULFAN SULFATE	15	PERCENT MOISTURE
19U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

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SAMPLE AND ANALYSIS MANAGEMENT SYSTEM
EPA-REGION IV ESD, ATHENS, GA.

07/12/88

PESTICIDES/PCB'S DATA REPORT

PROJECT NO. 88-373 SAMPLE NO. 26427 SAMPLE TYPE: SOIL PROG ELEM: NSF COLLECTED BY: A SPAUGH
SOURCE: CHAMPION INTERNATION CITY: ORANGEBURG ST: SC
STATION ID: SS-04 COLLECTION START: 06/02/88 STOP: 00/00/00
CASE NUMBER: 9702 SAS NUMBER: D. NUMBER: J420

UG/KG	ANALYTICAL RESULTS	UG/KG	ANALYTICAL RESULTS
8.3U	ALPHA-BHC	83U	METHOXYCHLOR
8.3U	BETA-BHC	17U	ENDRIN KETONE
8.3U	DELTA-BHC	--	CHLORDANE (TECH. MIXTURE) /1
8.3UR	GAMMA-BHC (LINDANE)	83U	GAMMA-CHLORDANE /2
8.3U	HEPTACHLOR	83U	ALPHA-CHLORDANE /2
8.3U	ALDRIN	170U	TOXAPHENE
8.3U	HEPTACHLOR EPOXIDE	83U	PCB-1016 (AROCLOR 1016)
8.3U	ENDOSULFAN I (ALPHA)	83U	PCB-1221 (AROCLOR 1221)
17U	DIELDRIN	83U	PCB-1232 (AROCLOR 1232)
17U	4,4'-DDE (P,P'-DDE)	83U	PCB-1242 (AROCLOR 1242)
17U	ENDRIN	83U	PCB-1248 (AROCLOR 1248)
17U	ENDOSULFAN II (BETA)	640	PCB-1254 (AROCLOR 1254)
17U	4,4'-DDD (P,P'-DDD)	170U	PCB-1260 (AROCLOR 1260)
17U	ENDOSULFAN SULFATE	4	PERCENT MOISTURE
17U	4,4'-DDT (P,P'-DDT)		

REMARKS

REMARKS

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UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

U.S.MAIL

PENALTY FOR PRIVATE USE, $300

RETURN TO

Print Sender's name, address, and ZIP Code in the space below.

Scott Gardner, US EPA

345 Courtland St, N.E.

Atlanta, GA 30365

UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

U.S.MAIL

PENALTY FOR PRIVATE USE, $300

RETURN TO

Print Sender's name, address, and ZIP Code in the space below.

Scott Gardner, US EPA

345 Courtland St, N.E.

Atlanta, GA 30365

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. †(Extra charge)†
2. ☐ Restricted Delivery †(Extra charge)†

3. Article Addressed to:
Mr. Ozzie Fogle
Decolam, Incorporated
P.O. Box 2126
Orangeburg, S.C. 29116-2126

4. Article Number
P 700 132 766

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X

7. Date of Delivery MAY 23 1988

8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, Mar. 1987 ★ U.S.G.P.O. 1987-178-268 DOMESTIC RETURN RECEIPT

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.
Put your address in the "RETURN TO" Space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.
1. ☐ Show to whom delivered, date, and addressee's address. †(Extra charge)†
2. ☐ Restricted Delivery †(Extra charge)†

3. Article Addressed to:
Mr. Lawrence Otwell
Georgia Pacific Corporation
P.O. Box 105603
Atlanta, GA 30348-5603

4. Article Number
P 700 132 765

Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee
X

6. Signature — Agent
X

7. Date of Delivery MAY 23 1988

8. Addressee's Address (ONLY if requested and fee paid)

PS Form 3811, Mar. 1987 ★ U.S.G.P.O. 1987-178-268 DOMESTIC RETURN RECEIPT

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION IV, ATHENS, GEORGIA

MEMORANDUM

DATE: [illegible]

SUBJECT: SSI Study Plan, Champion International Corporation Facility, Orangeburg, South Carolina

FROM: James Gray
Hazardous Waste Section
Environmental Compliance Branch
Environmental Services Division

TO: Narindar Kumar, Acting Chief
Site Assessment Section
Site Investigation and Support Branch
Waste Management Division

THRU: M. D. Lair, Chief
Hazardous Waste Section
Environmental Compliance Branch
Environmental Services Division

The SSI Study Plan for the Champion International Corporation Facility in Orangeburg, South Carolina, has been reviewed. The study plan as presented has been found adequate to achieve the objectives stated in Section 1.1. I would, however, urge that an attempt be made to assess the ground water route.

Section 3.2, Subsurface Soil Sampling states that if conditions permit, the samples will be taken from the water table interface. It appears that the samplers are to advance boreholes as far as possible with a power auger or until saturated soil is achieved. It would seem feasible for the samplers to carry along temporary well points and well sampling equipment in case the subsurface soil borings did find ground water. That way, ground water samples could be obtained at the site.

Should you have any questions regarding my comments or require additional information, please call me at FTS 250-3353.

cc: Lair/Mundrick
Knight
Blackwell

NUS
CORPORATION

1927 LAKESIDE PARKWAY
SUITE 614
TUCKER, GEORGIA 30084
404-938-7710

C-586-5-8-61

May 10, 1988

Mr. Robert Jourdan
Site Investigation and Support Branch
Waste Management Division
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Subject: Site Investigation Study Plan
Champion International Corporation
TDD No. F4-8801-06
Revision 0

Dear Mr. Jourdan:

Please find enclosed three copies of the study plan for the site investigation at the Champion International Corporation Facility in Orangeburg, South Carolina. If you should have questions regarding this investigation please contact me.

Very truly yours,

Chris Brown

Chris Brown
Project Manager

Approved

CB/dw

Enclosures (3)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

ENVIRONMENTAL SERVICES DIVISION
ATHENS, GEORGIA 30613

MEMORANDUM

DATE: May 12, 1988

SUBJECT: Champion International Corporation, Orangeburg, S.C., SSI Study Plan

FROM: Pat Stamp, Laboratory Quality Control Specialist Pat Stamp
Laboratory Evaluation & QA Section

TO: Narindar Kumar
Site Assessment Section
Site Investigation & Support Branch
Waste Management Division

THRU: Wade Knight, Chief WK
Laboratory Evaluation & QA Section

We have reviewed the subject document and have no comments.

R-586-5-8-5

Site Inspection Date
May 31 → June 3

STUDY PLAN
SITE SCREENING INVESTIGATION
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG, SOUTH CAROLINA
EPA ID #: SCD003342177

Prepared Under
TDD No. F4-8801-06
CONTRACT NO. 68-01-7346

Revision 0

FOR THE

WASTE MANAGEMENT DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

MAY 9, 1988

NUS CORPORATION
SUPERFUND DIVISION

Prepared By	Reviewed By	Approved By
Chris Brown	Arnie Ostrofsky	~~Murray Warner~~, P.E.
Chris Brown Project Manager	Arnie Ostrofsky Assistant Regional Project Manager	~~Murray Warner~~, P.E. Regional Project Manager

NOTICE

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CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, ORANGEBURG, SOUTH CAROLINA
EPA ID #SCD003342177
TDD NO. F4-8801-06

1.0 INTRODUCTION

The NUS Corporation Region 4 Field Investigation Team (FIT) has been tasked by the U.S. Environmental Protection Agency (EPA), Waste Management Division to conduct a site screening investigation (SSI) at the Champion International Corporation Facility in Orangeburg County, South Carolina. The investigation will be performed under the authority of the Comprehensive Environmental Response Compensation and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA). The task will be performed to satisfy the requirements stated in Technical Directive Document (TDD) number F4-8801-06.

1.1 Objectives

The objectives of this sampling investigation are to collect information to assist in developing a site-specific preliminary HRS score and to determine if further investigation is required at this site.

Specific elements are:

- Obtain information to prepare a preliminary HRS

- Provide EPA the necessary information to make decisions on any other actions warranted at the site.

- Complete a Site Screening Investigation (SSI) Report.

1.2 Scope of Work

The scope of this investigation will include the following activities:

- Obtain and review background materials relevant to HRS scoring of site
- Obtain aerial photographs and maps of site, if possible
- Obtain information on local water systems
- Evaluate target population within a 4-mile radius of the site with regard to groundwater use, surface water use, and possibility of direct contact or fire and explosion hazard

Not discussed in narrative

- Conduct a survey of private wells
- Determine location and distance to nearest potable well
- Conduct a geophysical screening of site to determine whether buried drums may be present
- Collect up to 14 environmental samples consisting of surface soil, subsurface soil, surface water, and sediment.

1.3 Schedule

Week of May ~~23~~ 31, 1988

1.4 Personnel

Chris Brown - Project Manager
FIT 4 Team

1.5 Permits and Authorization Requirements

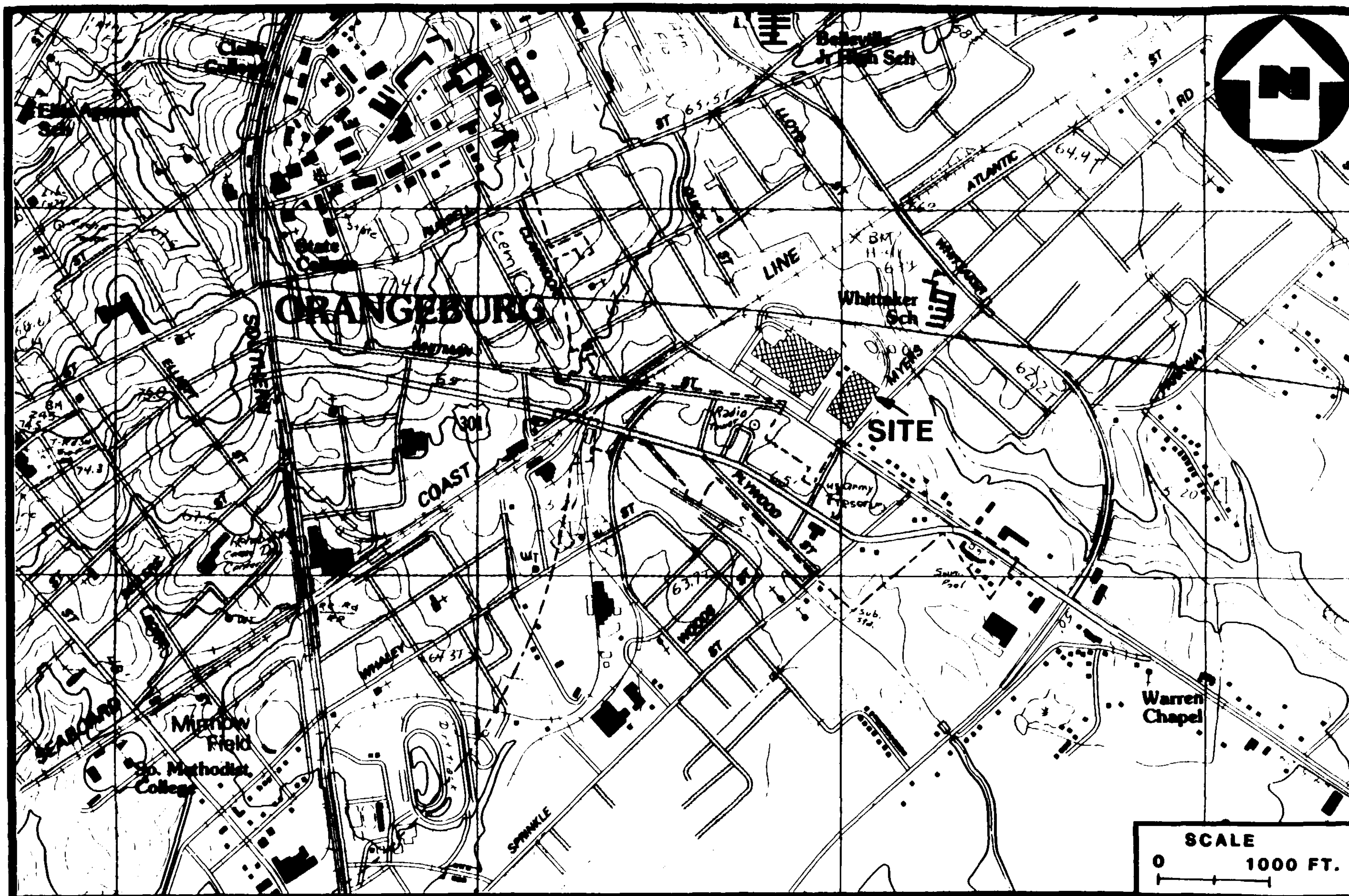
The EPA is responsible for obtaining access to the site and permission to take photographs of site. In addition, EPA is responsible for all permits which may be required to accomplish this task.

1.6 Site History and Description

The champion International Corporation is located at the corner of Five Chop Road and Meyers Road in Orangeburg, South Carolina (Figure 1-1). Orangeburg is situated in the south central portion of the state, approximately 45 miles south of Columbia. Champion International Corporation operated alternately under the name of U.S. Plywood. Currently, Georgia-Pacific owns the property and has shut down operations at the plant. Another business by the name of Decolam, Inc., is in operation on part of the property. Decolam's business is a vinyl laminating plant, owned by former employees of Champion, and presided over by Mr. Ozzie Fogle, former vice president and general manager of Champion International (Ref. 1). An offsite reconnaissance was conducted by NUS in January, 1988. A fence surrounding the site and tight access restrictions resulted in little information concerning actual site conditions. Figure 1-2 shows the site layout as ascertained by topographic and city maps.

A Notification of Hazardous Waste Activity form was filed on August 15, 1980, and again on November 19, 1980, in order to change the status of Champion International from a facility which treats, stores, and disposes of hazardous waste to one which only generates hazardous waste (Ref. 2). A Notification of Hazardous Waste Site form was filed on June 9, 1981, describing the facility type as a landfill, with organics and solvents as the general type of waste (ref. 3). As of September 14, 1982, Champion International was listed as an interim status facility (Ref. 4). On October 31, 1983, the South Carolina Department of Health and Environmental Control (SCDHEC) granted Champion approval for the offsite disposal of pesticides and pesticide containers at the Orangeburg County Landfill. The chemicals were stored in 55 gallon drums at the Champion facility until their disposal at the landfill (Ref. 5).

Champion International's disposal practices at the Orangeburg County Landfill were of great concern to SCDHEC in the early 1980's. Unsealed drums were transported to the landfill on several occasions, leaking liquids onto the ground (Ref. 6). Although this primarily

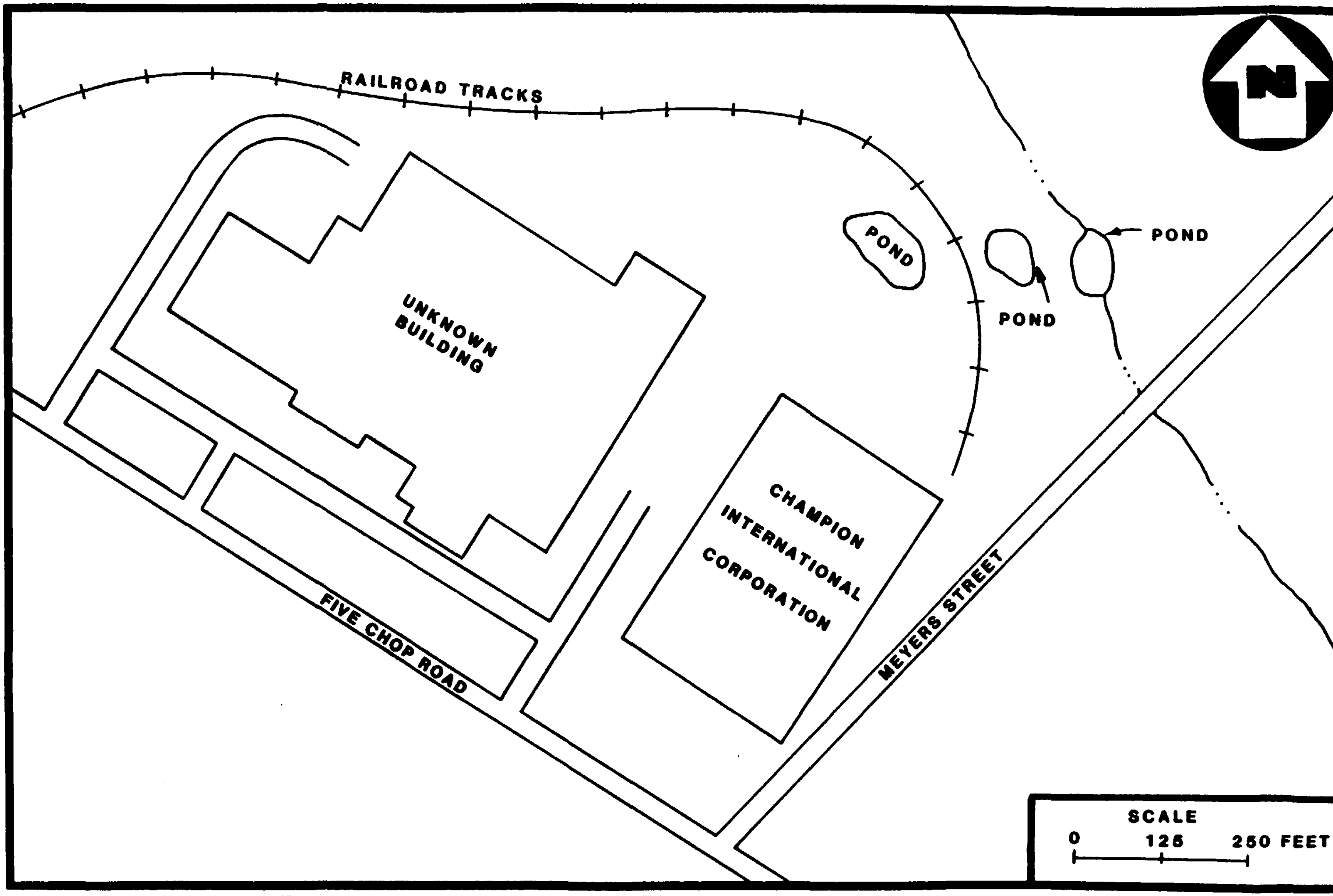


BASE MAP IS A PORTION OF THE U.S.G.S. 7.5 MINUTE QUADRANGLE ORANGEBURG SOUTH, SOUTH CAROLINA, 1982.

SITE LOCATION MAP
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, SOUTH CAROLINA

FIGURE 1-1

NUS CORPORATION



SITE LAYOUT MAP
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, SOUTH CAROLINA

FIGURE 1-2

NUS CORPORATION

impacts the county landfill, Champion's disposal practices may have resulted in spills on their own grounds before the transport of the drums.

The one persistent problem with Champion is a disposal area which is mentioned frequently in the file material. This disposal area is supposedly located along the back of the Champion facility. There is very little information on this area, but drums have been reportedly disposed there (Ref. 7).

The first mention of the disposal area in the file material is in 1974. Investigators from the Industrial Waste Section of SCDHEC saw several piles of wood scraps and a few 55-gallon drums. The plant manager stated that cleanup of the area should be finished by the end of that year (Ref. 7). An SCDHEC visit in 1982, however, again noted the presence of drums in the disposal area. The plant manager, Mr. Ozzie Fogle, was instructed to determine what was in the drums. SCDHEC also discovered that the plant was burning cured urea formaldehyde glue sludge in wood/fuel fired boilers, without district air personnel being aware of the practice (Ref. 8).

In 1986, SCDHEC sent a letter to Champion concerning the old drum site, once again urging an investigation of the matter. The letter also mentioned a cooling water basin located on the property near the dump area which may have used chromate cleaners in its operation. As late as May 14, 1987, no action had been taken to answer the questions presented by SCDHEC (Ref. 9).

1.7 Site Hydrogeology

Orangeburg, South Carolina is located in south-central South Carolina in the Middle Atlantic Coastal Plain Physiographic Province. The city of Orangeburg lies at the transitional zone between the outcrop areas of the McBean Formation in the Upper Coastal Plain and the Santee Limestone in the Lower Coastal Plain. The quartzose sands, calcareous clays and thin limestone of the McBean Formation interfinger with the fossiliferous, cherty, clauconitic, and dolomitic Santee limestone at this transition zone.

This zone is overlain with Pleistocene deposits of silt, sand, clay and gravel, and underlain by the Black Mingo, Peedee, Black Creek, and Middendorf aquifer systems, in descending order. The surficial Pleistocene aquifer, the Santee and the McBean aquifers of Tertiary age are unconfined aquifers in the Orangeburg area, with a water level of 40 feet below the land surface (Ref. 10). These aquifers are separated from the underlying aquifers by layers of shale and clay in the upper part of the Black Mingo formation (Ref. 11). The Black Mingo, Peedee, Black Creek, and Middendorf are all confined aquifers in this area.

The Pleistocene deposits of silt, sand, clay and gravel are from 50 to 120 feet thick in the Orangeburg area. There are some private wells tapping this aquifer, but due to the high content of iron in the water at this depth, the number of wells is low (Ref. 10).

The Santee Limestone of the Tertiary Limestone Aquifer System is first encountered at 50 to 120 feet below land surface (Ref. 12). This formation has developed a secondary porosity from the enlargement of fractures and joints through solution with the water contained in the aquifer. Fissures, sinkholes and subterranean passageways in the porous limestone are infiltrated by rainfall during the recharge process, making it a very productive system.

The McBean Formation is part of the Tertiary Sand Aquifer System and consists of quartzose sands interbedded with clays. Both the McBean and the Santee occur at or near the land surface and are tapped by many wells with depths of approximately 90 to 300 feet (Ref. 11, 12, 13).

2.0 GEOPHYSICAL SCREENING

Little information concerning the drum disposal area is known. Therefore, geophysics will be attempted at the facility to aid in determining the location of the disposal area, its approximate boundaries and depth. Geophysical techniques to be employed at the site include magnetics and electromagnetics. Data points will not be land surveyed; however, a reference from the grid origin to a permanent structure onsite will be completed. A summary of the geophysical methods to be used at the site are presented in Appendix A.

3.0 SAMPLING INVESTIGATION

The sampling investigation will include the collection of up to 14 environmental samples. The focus of the sampling program will be to obtain samples from potential waste source areas outlined in Section 1.6. The emphasis of the investigation will be on the collection of surface water, sediment, surface soil, and subsurface soil samples. Given the nature of the geology, shallow groundwater is not expected to be encountered at the depths capable of being reached by gasoline powered hand auger. In addition, no private wells are expected to be sampled. Reconnaissance of the site revealed that the nearest well is approximately two miles away and separated by Middle Pen Creek. A summary of the proposed sample locations and the number and types of samples to be collected shown in Figure 3-1 and Table 3-1, respectively. Analyses will be performed under the Contract Laboratory Program (CLP) and will include the target compound list (TCL).

It should be emphasized that the above mentioned sampling locations and the breakdown in the number and type of samples to be collected are proposed. It is possible that the locations and types of samples that will actually be collected may vary from the proposed schedule as more definitive information on site conditions becomes available.

3.1 Surface Water and Sediment Sampling

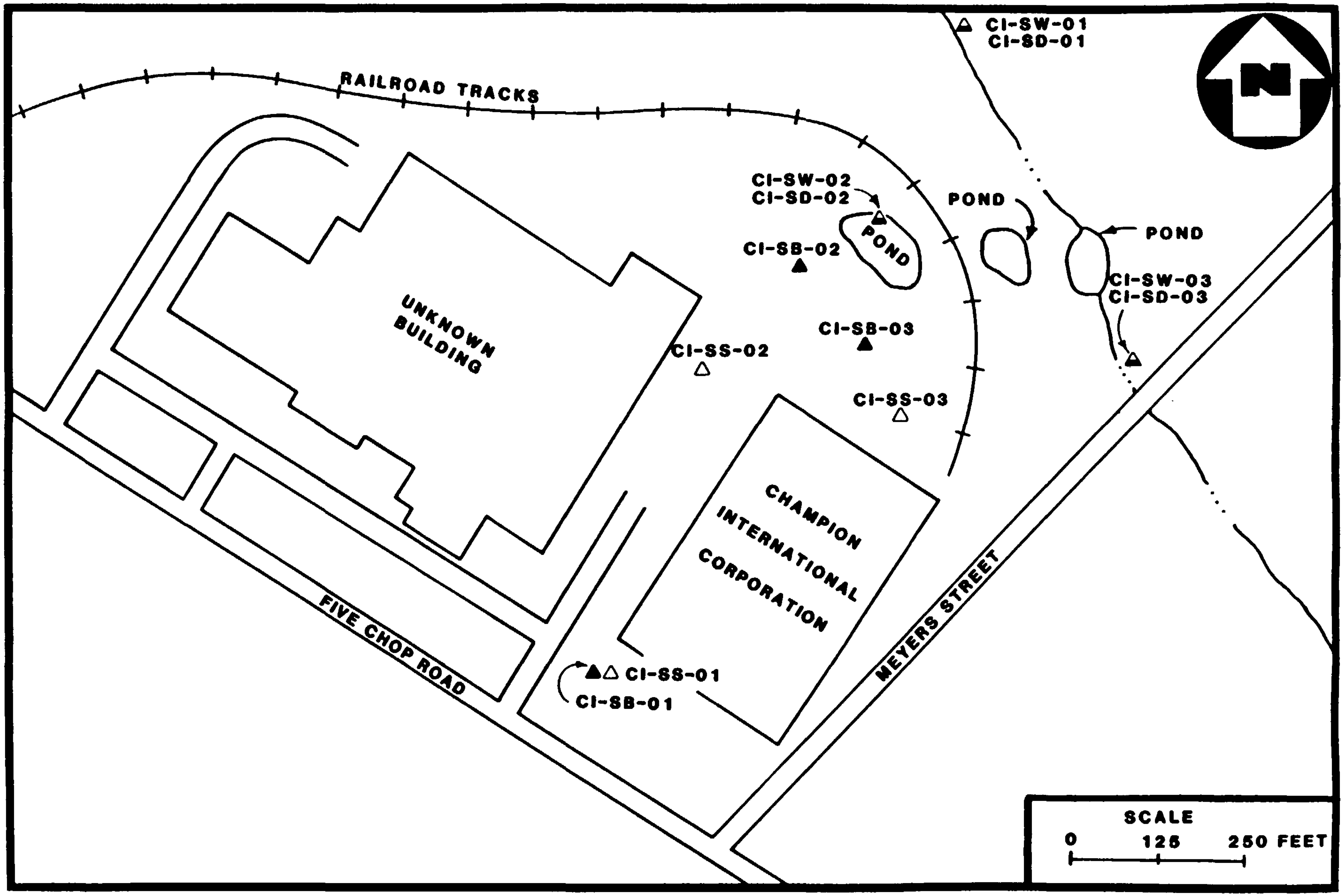
It is anticipated that a total of three sediment and surface water samples will be collected from the locations shown in Figure 3-1. These samples will characterize upstream conditions of MIddle Pen Creek and assess contamination to the onsite ponds.

3.2 Subsurface Soil Sampling

It is anticipated that three subsurface soil samples will be collected from the locations shown in Figure 3-1. These samples will be used to characterize upgradient and onsite subsurface soil conditions. Samples will be collected from boreholes advanced with a gasoline powered hand auger. If conditions permit the samples will be collected from the water table interface otherwise they will be collected from the vadose zone.

3.3 Suface Soil Sampling

Up to three surface soil samples will be collected. Two will be used to assess onsite conditions and will be taken from areas of stained or disclosed soil, if any. The remaining sample will be collected to establish background surface soil conditions.



SAMPLING LOCATIONS
CHAMPION INTERNATIONAL CORPORATION
ORANGEBURG, SOUTH CAROLINA

FIGURE 3-1

NUS CORPORATION

12 samples
not 14

TABLE 3-1

SAMPLE CODE DESCRIPTIONS AND LOCATIONS

Sample Code	Description	Location
CI-SS-01	Surface Soil	Background sample
CI-SB-01	Subsurface Soil	Background sample
CI-SW-01	Surface Water	Background sample
CI-SD-01	Sediment	Background sample
CI-SW-02	Surface Water	Large pond in back of facility
CI-SD-02	Sediment	Large pond in back of facility
CI-SW-03	Surface Water	Downstream sample
CI-SD-03	Sediment	Downstream sample
CI-SB-02	Subsurface Soil	Drum disposal area
CI-SB-03	Subsurface Soil	Cooling water basin area
CI-SS-02	Surface Soil	Drum staging area
CI-SS-03	Surface Soil	Drum staging area

3.4 Analytical and Container Requirements

Sample containers used will be in accordance with the requirements specified in the Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual; United States Environmental Protection Agency, Region IV, Environmental Services Division, April 1, 1986. The following is a description of the analysis and types of containers required.

Analyses	Container	Preservatives
Ext. Organics, Water	1 gal., amber glass*	None
Volatile Organics, Water	40 ml., glass vial*	4 drops conc. HCL to pH <2
Metals, Water	1 liter, plastic	50% HNO_3 to pH <2
Cyanide, Water	1 liter, plastic	NaOH to pH >12
Ext. Organics, Soil/Sediment	8 oz., glass*	None
Volatile Organics Soil/Sediment	4 oz., glass*	None
Inorganics, Soil/Sediment	8 oz., glass*	None

*Sample container lids are lined with teflon.

**Samples will be iced to 4oC.

3.5 Methodology

3.5.1 General

All sample collection, sample preservation, and chain-of-custody procedures used during this investigation will be in accordance with the standard operating procedures as specified in Section 3 and 4 of the Engineering Support Branch Standard Operating Procedures and Quality Assurance Manual; United States Environmental Protection Agency, Region IV, Environmental Services Division, April 1, 1986.

All laboratory analyses and laboratory quality assurance procedures used during this investigation will be in accordance with standard procedures and protocols as specified in the Analytical Support Branch Operations and Quality Assurance Manual; United States Environmental Protection Agency, Region IV, Environmental Services Division; revised June 1, 1985 or as specified by the existing United States Environmental Protection Agency standard procedures and protocols for the contract analytical laboratory program.

REFERENCES

1. Memo from James Burckhalter, Aiken Environmental Quality Control (EQC), to Jerri Higgins, March 9, 1988. RE: Current status of Champion International facility.

2. EPA file material, Notification of Hazardous Waste Activity form, Fred Rigden, operations manager, Champion International Corporation, August 15, 1980.

3. EPA file material, Notification of Hazardous Waste Site form, Rich C. Wigger, Vice President, Champion International Corporation, June 9, 1981.

4. EPA file material, Preliminary Assessment form, Debbie Browning, SCDHEC, September 14, 1982.

5. EPA file material, Letter from Joe Grant, SCDHEC, from Kurt J. Penney, Champion International Corporation, October 31, 1980.

6. EPA file material, Letter from James Burckhalter, Aiken EQC, to Ozzie Fogle, Champion Building Products, August 27, 1981.

7. EPA file material, Memo from Randall French, consultant, to Charles Kelly, manager, Industrial Waste Section, SCDHEC, September 17, 1974.

8. EPA file material, Memo from James Burckhalter, Aiken EQC, to Ed Gibson, Solid and Hazardous Waste Section, SCDHEC, June 21, 1982.

9. EPA file material, Memo from James Burckhalter, Aiker EQC, to John Cain, Solid and Hazardous Waste Section, SCDHEC, May 14, 1987.

10. Ackerman, G. W., owner, Ackerman-Carolina Drilling Company. Personal communication with Jerri Higgins, NUS Corporation, March 24, 1988. RE: Depth to water table in Orangeburg, S.C.

11. Siple, G. E., Groundwater Resources of Orangeburg County, South Carolina, 1975, p. 37, 10, 11.

12. Berry, Thomas F., owner, Berry Drilling Company. Personal communication with Jerri Higgins, NUS Corporation, March 23, 1988. RE: Aquifers and depth to water table in Orangeburg, S. C.

13. South Carolina Water Assessment, South Carolina Resources Commission, 1983, P. 263, 74.

Appendix A

Geophysical Methodology

APPENDIX A
SUMMARY OF GEOPHYSICAL METHODS

The following sections are from "Geophysical Techniques for Sensing Buried Wastes and Waste Migration" by Glaccum, R. A., and M. R. Noel, August, 1983, Technos, Inc., for Environmental Monitoring Systems Laboratory, ORD., USEPA, Las Vegas, Nevada.

RESISTIVITY

The resistivity method is used to measure the electrical resistivity of the geohydrologic section which includes the soil, rock, and ground water. Accordingly, the method may be used to assess lateral changes and vertical cross sections of the natural geohydrologic settings. In addition, it can be used to evaluate contaminant plumes and locate buried wastes at hazardous waste sites.

Application of the method requires that an electrical current be injected into the ground by a pair of surface electrodes. The resulting potential field (voltage) is measured at the surface between a second pair of electrodes. The subsurface resistivity can be calculated by knowing the electrode separation and geometry of the electrode positions, applied current, and measured voltage. (Resistivity is the reciprocal of conductivity, the parameter directly measured by the Electromagnetic (EM) technique).

In general, most soil and rock minerals are electrical insulators (highly resistive); hence the flow of current is conducted primarily through the moisture-filled pore spaces within the soil and rock. therefore, the resistivity of soils and rocks is predominantly controlled by the porosity and permeability of the system, the amount of pore water, and the concentration of dissolved solids in the pore water.

The resistivity technique may be used for "profiling" or "sounding". Profiling provides a means of mapping lateral changes in subsurface electrical properties. This field technique is well suited to the delineation of contaminant plumes and the detection and location of changes in natural geohydrologic conditions. Sounding provides a means of determining the vertical changes in subsurface electrical properties. Interpretation of sounding data provides the depth and thickness of subsurface layers having different resistivities. Commonly up to four layers may be resolved with this technique.

Applications of the resistivity method at hazardous waste sites include:

- Locating and mapping contaminant plumes;
- Establishing direction and rate of flow of contaminant plumes;
- Defining burial sites by
  - locating trenches,
  - defining trench boundaries,
  - determining the depths of trenches.
- Defining natural geohydrologic conditions such as
  - depth to water table or to water-bearing horizons,
  - depth to bedrock, thickness of soil, etc.

Most dry mineral components of soil and rock are highly resistive except for a few metallic ore minerals. Under most circumstances, the amount of soil/rock moisture dominates the measurement. Increased moisture decreases the resistivity value. Current flow is essentially electrolytic, being conducted by water contained within pores and cracks. A few minerals like clays actually contribute to conduction. In general, soils and rocks become less resistive as:

- Mositure or water content increases;
- Porosity and permeability of the formation increases;
- Dissolved solid and colloid (electrolyte) content increases;
- Temperature increases (a minor factor, except in areas of permafrost).

Very dry sand, gravel or rock as encountered in arid or semi-arid areas will have very high resistivity. As the empty pore spaces fill with water, resistivity will drop. Conversely, the resistivity of earth materials which occur below the water table but lack pore space (such as massive granite and limestone) will be relatively high and will be primarily controlled by current conduction along cracks and fissures in the formation. Clayey soils and shale layers generally have low resistivity values, due to their inherent moisture and clay mineral content. In all cases, an increase in the electrolyte, total dissolved solids (TDS) or specific conductance of the system will cause a marked increase in current conduction and a corresponding drop in resistivity. This fact makes resistivity an excellent technique for the detection and mapping of conductive contaminant plumes.

The operator must insure that adequate space is available at the site and that it is relatively clear of buried pipes and fences. Finding sufficient space for a long profile array with an overall length three to six times the depth of interest, or a sounding array with an overall length nine to twelve times the depth of interest can sometimes be a problem.

Although resistivity sounding methods are primarily intended for use in uniformly layered geological conditions, useful data may be obtained from the complex subsurface conditions often found at HWS. With both profiling and sounding techniques, inhomogeneities in the near-surface soils may introduce noise in the data. Some surface conditions such as dry surface materials, concrete roads or parking lots may preclude the use of the resistivity method.

The resistivity method is inherently limited to station measurements, since electrodes must in physical and electrical contact with the ground. This requirement makes the resistivity method slower than a non-contact method such as EM.

Capabilities

- Resistivity profiling techniques can be used to detect and map contaminant plumes and changes in geohydrology.
- Resistivity sounding methods can estimate the depth, thickness and resistivity of subsurface layers, or depth to the water table.
- Both profiling and sounding data can be evaluated qualitatively or semi-quantitatively in the field.
- Resistivity values can be used to identify the probable geologic composition of a layer or to estimate the specific conductance of a plume.
- Depth to bottom of landfills and large burial sites can sometimes be estimated.

Limitations

- The sounding technique requires that site conditions be relatively homogeneous laterally.
- The method is susceptable to noise cause by nearby fences, pipes and geologic scatter, which may interface with usefulness of the data.
- Quantitative interpretation requires the use of master curves and/or computer programs, and experience in their use.

ELECTROMAGNETICS (EM)*

The electromagnetic (EM) method provides a means of measuring the electrical conductivity of subsurface soil, rock, and ground water. Electrical conductivity is a function of the type of soil and rock, its porosity, its permeability, and the fluids which fill the pore space. In most cases the conductivity (specific conductance) of the pore fluids will dominate the measurement. Accordingly, the EM method is applicable both to assessment of natural geohydrologic conditions and to mapping of many types of contaminant plumes. Additionally, trench boundaries, buried wastes and drums, as well as metallic utility lines can be located with EM techniques.

Natural variations in subsurface conductivity may be caused by changes in soil moisture content, ground water specific conductance, depth of soil cover over rock, and thickness of soil and rock layers. Changes in basic soil or rock types, and structural features such as fractures or voids may also produce changes in conductivity. Localized deposits of natural organic, clay, sand, gravel, or saltrich zones will also affect subsurface conductivity.

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*The term electromagnetic has been used in contemporary literature as a descriptive term for other geophysical methods, including GPR and metal detectors which are based on electromagnetic principles. However, this document will use electromagnetic (EM) to specifically imply the measurement of subsurface conductivities by low-frequency electromagnetic induction. This is in keeping with the traditional use of the term in the geophysical industry from which the EM methods originated. While the authors recognize that there are many electromagnetic systems and manufacturers, the discussion in this section is based solely on instruments which are calibrated to read in electrical conductivity units and which have been effectively and extensively used at hazardous waste sites. There is only one manufacturer of such instruments at the time of this writing.

Many contaminants will produce an increase in free ion concentration when introduced into the soil or ground water systems. This increase over background conductivity enables detection and mapping of contaminated soil and ground water at Hazardous Waste Sites (HWS), landfills, and impoundments. Large amounts of organic fluids such as diesel fuel can displace the normal soil moisture, causing a decrease in conductivity which may also be mapped, although this is not commonly done. The mapping of a plume will usually define the local flow direction of contaminants. Contaminant migration rates can be established by comparing measurements taken at different times.

The absolute values of conductivity for geologic materials (and contaminants) are not necessarily diagnostic in themselves, but the variations in conductivity, laterally and with depth, are significant. It is these variations which enable the investigator to rapidly find anomalous conditions.

Since the EM method does not require ground contact, measurements may be made quite rapidly. Lateral variations in conductivity can be detected and mapped by a field technique called profiling. Profiling measurements may be made to depths ranging from 0.75 to 60 meters. The data is recorded using strip chart and magnetic tape recorders. This continuous measurement allows increased rates of data acquisition and improved resolution for mapping small geohydrologic features. Further, recorded data enhanced by computer processing has proved invaluable in the evaluation of complex hazardous waste sites. The excellent lateral resolution obtained from EM profiling datas has been used to advantage in efforts to outline closely-spaced burial pits, to reveal the migration of contaminants into the surrounding soil, and to delineate fracture patterns.

Vertical variations in conductivity can also be detected by the EM method. A station measurement technique called sounding is employed for this purpose. Data can be acquired from depths by combining results from a variety of EM instruments, each requiring different field application techniques. Other EM systems are capable of sounding to depth of one-thousand feet or more, but have not yet been used at HWS and are not adaptable to continuous measurements.

Profiling is the most cost-effective use of the EM method. Continuous profiling can be used in many applications to increase resolution, data density, and permit total site coverage at critical sites.

At HWS, applications of EM can provide:

- Assessment of natural geohydrologic conditions;
- Locating and mapping of burial trenches and pits containing drums and/or bulk wastes;
- Determination of flow direction in both unsaturated and saturated zones;
- Rate of plume movement by comparing measurement taken at different times;
- Locating and mapping of utility pipes and cables which may affect other geophysical measurements, or whose trench may provide a permeable pathway for contaminant flow.

Although there is available a wide variety of EM equipment, most of it is intended for geophysical exploration of mineral deposits. These units have not been used at HWS and do not provide a simple conductivity reading. This document discusses only those instruments which are designed and calibrated to read directly in units of conductivity.

Conductance is measured with electronic instrumentation consisting of a transmitter coil and receiver coil. The transmitter coil radiates an electromagnetic field which induces eddy currents in the earth below the instrument. Each of these eddy current loops, in turn, generates a secondary electromagnetic field which is proportional to the magnitude of the current flowing within that loop. A part of the secondary magnetic field from each loop is intercepted by the receiver coil and produces an output voltage which (within limits) is linearly related to subsurface conductivity. This reading is a bulk measurement of conductivity, e.g., the cumulative response to subsurface conditions ranging all the way from the surface to the effective depth of the instrument.

The sampling depth of EM equipment is related to the instrument's coil spacing. Instruments with coil spacings of one, four, ten, twenty, and forty meters are commercially available. The nominal sampling depth of an EM system is taken to be approximately 1.5 times the coil spacing.

The EM sounding method can rarely identify more than two or three layers with reasonable confidence. The greater the contrast in the conductivity values of each layer, the better the results. Often, the more detailed resistivity sounding method is used to complement EM profiling data.

The results of sounding analysis are usually presented as a vertical section, in which the conductivity layers are identified as a function of depth. The analyst may be able to correlate these layers to geohydrologic units believed to exist at the site.

Although the EM technique can be used for profiling or sounding, profiling is the most effective use of the EM method. Profiling makes possible the rapid mapping of subsurface conductivity changes, and the location, delineation, and assessment of spatial variables resulting from changes in the natural setting or from many contaminants.

EM is a very effective reconnaissance tool. The use of qualitative non-recorded data can provide initial interpretation in the field. If site conditions are complex, the use of a high-density survey grid, continuously-recording instruments, and computer processing may be necessary, in order to properly evaluate subsurface conditions. When continuously-recording instruments are used, total site coverage is feasible. More quantitative information can be obtained by using conductivity data from different depth ranges. At present, three different systems must be used to acquire data from 0.75 to 60 meters. Very often, however, data from two standard depths, e.g. six and fifteen meters, is adequate to furnish depth information.

Capabilities

- The EM profile method permits rapid data acquisition, resulting in high-density and high-resolution surveys.
- Profiling data may be acquired from various descrete depths, ranging from 0.75 meters to 60 meters.
- Continuously-recording instruments (to fifteen meter depth) can increase survey speed, density, and resolution permitting total site coverage, if required.
- EM reads directly in conductivity units (mm/m) permitting use of raw data in the field, and correlation to specific conductance of ground water samples.
- EM can map local and general changes in the natural geohydrologic setting.
- EM can detect and measure the boundaries of a conductivity plume.
- Direction of plume flow can be determined from an EM conductivity map.
- EM measurements taken at different times can provide the means to compute movement rates of conservative contaminants.
- EM can detect and map burial pits and trenches of both bulk and drummed wastes.
- EM can detect and map the location of buried metallic utility lines.

Limitations

- EM has less sounding (vertical) resolution than the resistivity method due to its limited number of depth intervals.
- The acquisition of data from depths of 0.75 to 60 meters requires the use of three different EM systems.
- Continuous data can be obtained only to depths up to approximately fifteen meters.
- An EM measurement is influenced by the shallower materials more than the deeper ones; this must be considered when evaluating the data.
- EM measurements become non-linear in zones of very high conductivity.
- The EM method is susceptible to noise from a number of sources, including natural atmospheric noise, powerlines, radio transmitters, buried metallic trash, pipes, cables, nearby fences, vehicles, and buildings.

MAGNETOMETER

Magnetic measurements are commonly used to map regional geologic structure and to explore for minerals. They are also used to locate pipes and survey stakes or to map archeological sites. They are commonly used at HWS to locate buried drums and trenches.

A magnetometer measures the intensity of the earth's magnetic field. The presence of ferrous metals creates variations in the local strength of that field, permitting their detection. A magnetometer's response is proportional to the mass of the ferrous target. Typically, a single drum can be detected at distances up to six meters, while massive piles of drums can be detected at distances up to twenty meters or more.

Some magnetometers require the operator to stop and take discrete measurements; other instruments permit the acquisition of continuous data as the magnetometer is moved across the site. This continuous coverage is much more suitable for high resolution requirements and the mapping of extensive areas.

The effectiveness of a magnetometer can be reduced or totally inhibited by noise or interference from time-variable changes in the earth's field and spatial variations caused by magnetic minerals in the soil, or iron and steel debris, ferrous pipes, fences, buildings, and vehicles. Many of these problems can be avoided by careful selection of instruments and field techniques.

At HWS, magnetometers may be used to:

- Locate buried steel containers, such as 55-gallon drums;
- Define boundaries of trenches filled with ferrous containers;
- Locate ferrous underground utilities, such as iron piles or tanks, and the permeable pathways often associated with them;
- Select drilling locations that are clear of buried drums, underground utilities, and other obstructions.

A magnetometer measures the intensity of the earth's magnetic field. Variations in this field may be caused by the natural distribution of iron oxides within the soil and rock or by the presence of buried iron or steel objects. (The magnetometer does not respond to nonferrous metals such as aluminum, copper, tin, and brass).

The earth's magnetic field behaves much as if there were a large bar magnet embedded in the earth. Although the earth's field intensity varies considerably throughout the United States, its average value is approximately 50,000 gammas.* The angle of the magnetic field with respect to the earth's surface also varies. In the U.S., this angle of inclination ranges approximately sixty to seventy-five degrees from the horizontal.

The intensity of the earth's magnetic field changes daily with sunspots and ionospheric conditions which can cause large and sometimes rapid variations. With time, these variations produce unwanted signals (noise) and can substantially affect magnetic measurements.

If the magnetic properties of the soil and rock were perfectly uniform, there would be no local magnetic anomalies; however, a concentration of natural iron minerals, or a buried iron object, will cause a local magnetic anomaly which can be detected at the surface.

Typical magnetic anomalies at HWS will range from one to hundreds of gammas for small discrete targets, depending on their depth. Massive piles of buried drums will result in anomalies of from one-hundred to one-thousand gammas or more.

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*The unit of magnetic measurement is the gamma. Recently, the gamma unit has been renamed the Nano Tesla. At this time, most instruments are still labeled in gammas, as are specification sheets, existing literature, and field data; hence all references to magnetic data in this document are expressed in gammas.

While several factors influence the response of a magnetometer, the mass of a buried target and its depth are the most important. A magnetometer's response is directly proportional to the mass of ferrous metal present and varies by one over the distance cubed ($1/d^3$) for total measurements. If a gradiometer is used, the response falls off even faster, as one over the distance to the fourth power ($1d^4$). With sensors of equal sensitivity, the total field system provides the greater working range. Typically a single drum can be detected at distances up to six meters or more. There is a wide variety of magnetometers available commercially; specific performance is highly dependent upon the type of magnetometer and the field conditions. Theoretically, the number of drums may be calculated, however, such results should be considered only approximations because of the number of variables associated with targets, site conditions, and calculations. Actual results may vary considerably.

A magnetometer with continuous recording capabilities can be used to produce a strip chart of the field data, which is helpful in assessing signal-to-noise ratio, anomaly shape, target location, and provides a means of exercising quality control over field data. This continuous coverage is much more suitable for high-resolution requirements and the mapping of extensive areas.

The effectiveness of a magnetometer can be reduced or totally inhibited by noise or interference from time-variable changes in the earth's field and spatial variations caused by magnetic minerals in the soil, or iron and steel debris, ferrous pipes, fences, buildings, and vehicles. Many of these problems can be avoided by careful selection of instruments and field techniques.

Capabilities

- Magnetometers respond to ferrous metals (iron or steel) only.
- Individual drums can be detected at depths up to six meters.
- Large masses of drums can be detected at depths of six to twenty meters.
- Magnetometers can provide a greater depth range than metal detectors.
- Interpretation of their data may be used to provide estimates of the number and depth of buried drums.
- They can provide a continuous response along a traverse line.
- They may be mounted on vehicles for coverage of a large site.

Limitations

- In general, magnetometers are susceptible to noise from many different sources, including steel fences, vehicles, buildings, iron debris, natural soil minerals, and underground utilities.
- Low cost units are limited in depth range (but their limitations make them insensitive to many of the above sources of noise).
- Total field instruments are also sensitive to fluctuations in the earth's magnetic field which can seriously affect data.
- Data is of limited use in determining the number and depth of targets.
- Complex site conditions may require the use of highly skilled operators, special equipment, and the recording and processing of data, along with skilled interpretation.

SEISMIC REFRACTION

Introduction

Seismic refraction techniques are used to determine the thickness and depth of natural layers of soil and rock and the travel time or velocity of seismic waves within the layers. Seismic refraction methods are often used to determine depths to specific horizons such as bedrock, clay layers, and water table. In addition to mapping natural features, additional secondary applications of the seismic method include the location and deleniation of the extent of burial pits and trenches at hazardous waste sites (HWS).

Seismic waves transmitted into the subsurface travel at different velocities depending upon the type of wave. Each type of wave in turn travels at difference velocities in various types of soil and rock of different densities and are refracted (or bent) at the interfaces between layers. Such refraction affects the seismic wave path of travel. An array of geophones implanted in the surface measures the travel time of the different seismic waves from the source of seismic disturbances to the geophones located at a predetermined number and interval of spacings. The time required for a specific wave type to complete this path is measured, permitting a determination to be made of the seismic velocity of each layer, the thicknesses of the layers and their depths, as well as the number of layers. The wave velocity in each layer is directly related to its material properties such as density and hardness.

A seismic source, an array of geophones, and a seismograph are required to make the field measurements. The seismic source may be a simple sledge hammer with which to strike the ground or explosives and any other seismic sources (such as natural earthquakes may be utilized for deeper or special applications. Geophones implanted in the surface of the ground translate the received vibrations of seismic energy into electrical signals. This signal is displayed on the seismograph, permitting measurement of the arrival time of a specific seismic wave type. Since the seismic refraction method measures ground vibrations of small magnitude, it is inherently susceptible noise from a variety of natural and cultural sources.

At HWS, seismic refraction can be used to define natural geohydrologic conditions, including thickness and depth of soil and rock layers, their physical properties such as density. Density in turn is related to composition, and density differences such as depth to bedrock or water table can be detected. It can also be used for the detection and location of features with anomalous density distributions relative to the surrounding medium such as pits and trenches, and for evaluation of the excavated depth of burial site or landfills.

Principles

Although a number of elastic waves are inherently associated with the method, conventional seismic refraction methods that have been employed at HWS are concerned primarily with the compressional wave (primary or P-wave). The compressional wave is also the first to arrive at the seismic station which makes its unique identification relatively easy.

P-waves propagate through subsurface layers through many different travel paths. the density of a layer and its elastic properties determine the velocity at which the seismic P-wave will travel through the layer. The porosity, mineral composition, and water content of the layer affect both its density and elasticity. A seismic sensor (geophone) detects the direct P-wave as it moves parallel along the top of the surface layer. The time of travel along this path is related to the distance between the sensor and the source and the material composing the layer.

If a layer of higher density, such a bedrock, occurs beneath a surface layer, a seismic wave propagating through the higher-density material will have a higher velocity. As a result, some of the seismic waves will be bent or refracted at the interface as they enter the bedrock. This phenomenon is similar to the refraction of light rays when light passes from a less dense medium, air, into more dense medium, water, and is described by Snell's law. One of these refracted P-wave fronts, crossing the interface at a critical angle, will move parallel to the top of the bedrock along the interface at a greater velocity equal to the bedrock velocity.

The seismic P-wave traveling along this interface will continually disperse energy back into the upper layer through refraction. These refracted P-waves may then be detected in the surface layer at various distances from the seismic source.

Beyond a certain distance (called the critical distance), the refracted P-wave will arrive at a geophone before the direct P-wave. This happens, even though the refraction path is longer than the direct path, because a sufficient portion of the wave's path occurs in the higher velocity bedrock allowing the refracted wave to surpass the direct wave front. Measurement of these first arrival times and their distances from the source permits calculation of layer velocities, thicknesses, and depth to bedrock. Application of the refraction seismic method is generally limited to resolving three to four layers.

The preceding concepts are based upon the fundamental assumptions that:

1. Seismic velocitis of geologic layers must increase with depth. This requirement is generally met at most sites.

2. Layers must be sufficient thickness to permit detection, given the time scale of seismograph in milliseconds.

3. Seismic velocities of layers must be sufficiently different to permit resolution of individual layers beyond seismic noise from natural and cultural sources.

Factors to be Considered for Field Use

The seismic line must be centered over the required area of interest and overall line length must be three to five times longer than the maximum depth of interest. Resolution is determined by the geophone spacing. Spacings of 3 to 15 meters are commonly used in many applications; however, closer spacings may be necessary for very high resolution in determining depth of shallow soil and geologic sections.

Repetition of seismic refraction lines along a grid will reveal lateral variations as well as vertical variations. Resulting data can be used to indicate trends of dipping layers and to detect anomalous conditions, such as clay seams, fractures, disturbed fault zones, thickness of soil mantle to bedrock, as well as the depth position of the water table.

Since the seismic refraction method measures compressional ground vibration, it is inherently sensitive to background noise from a variety of sources. Single enhancement and filtering is a significant aid when working in noisy areas and with small energy sources. Enhancement capability is available in most single and multi-channel seismomether systems. Enhancement is accomplished by adding a number of seismic signals from repeated hammer blows of similar force. The coherent seismic signal is increased in direct proportion to the number of blows, and the energy of each blow while random noise in the seismic signal is increased only by the square root of the number of blows. this causes the seismic signal to "grow" out of the background noise level, permitting detection of seismic waves significantly above noise level when operating in seismically noise environments and when employing greater distances between source and geophones. The overall results provide a more precise measurement of the first arrival time for P-waves because their resolution has been enhanced by varying such field parameters as distance between source and geophones and energy of seismic source.

Depending on site conditions, a hammer is useful for obtaining seismic data to depths of 10 to 15 meters, while a 250-kilogram (500-pound) drop weight is required for depths of 50 to 100 meters. A more powerful seismic source is necessary to obtain deeper data or for work in noise areas. Many sources are available for meeting specialized needs. If the use of explosives or projectile sources is contemplated, the project manager must consider the safety hazards inherent in such methods, as well as their impact on the hazardous site itself, and the response from the surrounding neighborhood. Local laws, insurance requirements and the increase in project cost associated with compliance may also restrict the use of explosives.

Quality Control

Quality control can be achieved in several ways:

- A check of the seismic signal and noise conditions of the instrument display will verify the proper functioning of geophones and trigger cables and the correct range setting of the instrument for a given energy input. A gain setting on the seismometer must be selected that in not overwhelmed by the seismic source but within the optimum sensitivity range of the seismograph to a low resolution of the seismic signal above the seismic noise.

- In cases where paper records are not made, seismic arrival times must be visually picked from the electronic display and immediately plotted on a T/D graph in the field. Problems with improper picks are often discovered by early inspection of these plots. This will also allow determination of proper range scale and a check on the sensitivity range of the instruments.

- If the data is to be used for legal purposes, or if it must be reviewed by persons other than the field party chief, a hard copy of the data must be made. Multi-channel systems provide a much better means of presenting and documenting the data than do single-channel units. They also provide greater resolution and sensitivity. The individual travels of the single-channel systems have to be clopped and pasted together and provides a much less acceptable-looking and workable record. For simple, smaller surveys, however, the single-channel units can be satisfactory when used by experienced personnel.

- Background or off-site data is often required for correlation with known geologic information and to establish clean background noise level. Such background information is also useful as a reference for evaluating complex site conditions.

- Boring logs should be obtained to minimize the possibility that low velocity (hidden layers) or thin beds will remain undetected.

- Electronic calibration of the timing circuits of the seismograph may be done in the laboratory. However, this is rarely necessary because these timing circuits are crystal-controlled and have inherently low signal drift. Normal annual factory maintenance includes such calibration.

- The seismic system may also be run at a standard base station for periodic check of the instrument operation.

<u>Noise</u>

Seismic signals are strongly affected by ground vibration noise; less so be geologic scatter. In addition, the subjective pick of first arrival times can contribute a few milliseconds of error to timing intervals.

Unwanted vibrations that affect the seismic signal at he geophone may be caused by:

- Strong winds which move nearby trees;

- Sounds of airplanes;

- Surface sources, such as moving vehicles on nearby highways and railroads;

- Field crews walking near geophones;

- Nearby blasting or operation of heavy construction equipment;

- Micro-earthquakes

Geologic scatter may be caused by lateral variation in layer composition, irregular interface between layers, or a less dense layer occurring below a more dense layer. Such scatter can complicate interpretation of the T/D polt, but is also a valuable indicatory of site conditions.

Examples include:

- Variations in the thickness of the "soil zone";
- Boulders in glacial clay or till;
- Zones of increased cementation in sandstone and limestone;
- Lenses of sand in clay layers;
- Variations in saturated water content caused by perched water tables;
- Irregular bedrock surfaces;
- Limestone containing numerous solution cavities.
- Solution cavities filled in with material at different density.

Summary

The seismic refraction method can be used as an aid in defining natural geohydrologic conditions, including thickness and depth of soil and rock layers, and depth to bedrock or water table. Generally, two or three layers system can be analyzed in the field by the use of seismic refraction nomograms and simple calculations. More complicated sites having three to four layers with dip will require a programmable calculatory or a small computer to solve the seismic equations.

Since seismic velocity is directly related to a material properties of the layer such as density and hardness, lateral variations in composition or an irregular interface between layers will show up as geologic scatter on a T/D plot. This is a valuable indicator of variations and anomalous conditions in site conditions. The analysis of this data requires that the interpreter be knowledgeable about the

NUS
CORPORATION

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SUITE 614
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404-938-7710

C-586-4-8-47

April 7, 1988

Mr. Robert Jourdan
Site Investigation and Support Branch
Waste Management Division
Environmental Protection Agency
345 Courtland Street, N.E.
Atlanta, Georgia 30365

Date: ____________
Site Disposition: Med
EPA Project Manager: ____________

Subject: Preliminary Reassessment
Champion International Corporation
Orangeburg, Orangeburg, South Carolina
EPA ID No. SCD003342177
TDD No. F4-8801-06

Dear Mr. Jourdan:

FIT 4 conducted a preliminary reassessment of the Champion International Corporation facility in Orangeburg, Orangeburg County, South Carolina. The assessment included a comprehensive review of EPA and state file material, completion of a target survey, and an offsite reconnaissance of the facility and the surrounding area.

Champion International Corporation operated alternately under the name of U.S. Plywood. Currently, Georgia-Pacific owns the property and has shut down operations at the plant. Another business by the name of Decolam, Inc., is in operation on part of the property. The new business is a vinyl laminating plant, owned by former employees of Champion, and presided over by Mr. Ozzie Fogle, former vice president and general manager of Champion International (Ref. 1).

A Notification of Hazardous Waste Activity form was filed on August 15, 1980, and again on November 19, 1980, in order to change the status of Champion International from a facility which treats, stores, and disposes of hazardous waste to one which only generates hazardous waste (Ref. 2). A Notification of Hazardous Waste Site form was filed on June 9, 1981, describing the facility type as a landfill, with organics and solvents as the general type of waste (Ref. 3). As of September 14, 1982, Champion International was listed as an interim status facility (Ref. 4). On October 31, 1983, the South Carolina Department of Health and Environmental Control (SCDHEC) granted Champion approval for the offsite disposal of pesticides and pesticide containers at the Orangeburg County Landfill. The chemicals were stored in 55 gallon drums at Champion until their disposal at the landfill (Ref. 5).

Champion International's disposal practices at the Orangeburg County Landfill were of great concern to SCDHEC in the early 1980's. Unsealed drums were transported to the landfill on several occasions, leaking liquids onto the ground (Ref. 6). Although the primary concern in this case would be the county landfill, Champion's disposal practices may have resulted in spills on their own grounds before the transport of the drums.

The one persistent problem with Champion is an old dump area which is mentioned frequently in the file material. This dump is on the property of Champion, near the rear. There is very little information on this area, but drums have been disposed there (Ref. 7).

The first mention of the old drum disposal area in the file material is in 1974. Investigators from the Industrial Waste Section of SCDHEC saw several piles of wood wastes and a few 55-gallon drums. The plant manager stated that cleanup of the area should be finished by the end of that year (Ref. 7).

In 1982, SCDHEC visited the plant again. Drums were still in the dump area. The plant manager, Mr. Ozzie Fogle, was instructed to determine what was in the drums. SCDHEC also discovered that the plant was burning cured urea formaldehyde glue sludge in wood/fuel fired boilers, without district air personnel being aware of the practice (Ref. 8).

In 1986, SCDHEC sent a letter to Champion concerning the old drum site, once again urging an investigation of the matter. The letter also mentioned a cooling water basin located on the property near the dump area which may have used chromate cleaners in its operation. As late as May 14, 1987, no action had been taken to answer the questions that SCDHEC had asked (Ref. 9). A further investigation is necessary to obtain definitive information about this onsite disposal area.

Orangeburg, South Carolina is located in south-central South Carolina in the Middle Atlantic Coastal Plain Physiographic Province. The city of Orangeburg lies at the transitional zone between the outcrop areas of the McBean Formation in the Upper Coastal Plain and the Santee Limestone in the Lower Coastal Plain. The quartzose sands, calcareous clays and thin limestone of the McBean Formation interfinger with the fossiliferous, cherty, glauconitic, and dolomitic Santee limestone at this transition zone.

This zone is overlain with Pleistocene deposits of silt, sand, clay and gravel, and underlain by the Black Mingo, Peedee, Black Creek, and Middendorf aquifer systems, in descending order. The surficial Pleistocene aquifer, the Santee and the McBean aquifers of Tertiary age are unconfined aquifers in the Orangeburg area, with a water level of 40 feet below the land surface (Ref. 10). These aquifers are separated from the underlying aquifers by layers of shale and clay in the upper part of the Black Mingo formation (Ref. 11). The Black Mingo, Peedee, Black Creek, and Middendorf are all confined aquifers in this area; therefore, they are not of concern in this investigation.

The Pleistocene deposits of silt, sand, clay and gravel are from 50 to 120 feet thick in the Orangeburg area. There are some private wells tapping this aquifer, but due to the high content of iron in the water at this depth, the number of wells is low (Ref. 10).

The Santee Limestone of the Tertiary Limestone Aquifer System is first encountered at 50 to 120 feet below land surface (Ref. 12). This formation has developed a secondary porosity from the enlargement of fractures and joints through solution with the water contained in the aquifer. Fissures, sinkholes and subterranean passageways in the porous limestone are infiltrated by rainfall during the recharge process, making it a very productive system.

The McBean Formation is part of the Tertiary Sand Aquifer System and consists of quartzose sands interbedded with clays. Both the McBean and the Santee occur at or near the land surface and are tapped by many wells with depths of approximately 90 to 300 feet (Ref. 11, 12, 13).

The Orangeburg municipal water system uses surface water from the North Edisto River to supply the majority of residents in Orangeburg with water. There is, however, a significant population who use private wells for their drinking water (Ref. 14).

Surface water has a high potential for contamination since the Middle Pen Creek is directly behind the facility. Further south of Orangeburg the creek becomes a swamp. This surface water is not connected to the North Edisto River, which supplies the municipal system in Orangeburg (Ref. 15).

Carolina Bays, undrained shallow depressions with an elliptical or ovate shape, are located throughout the Orangeburg area. These bays are home to many sorts of wildlife and are considered sensitive environments (Ref. 11).

There is a potential hazard to the air quality in the industrialized area surrounding the Champion facility. The documented sloppiness of their disposal practices may have resulted in spillage of the urea formaldehyde glues and solvents which were stored at the facility until transport. There is an additional potential for a fire hazard, due to the ignitability of the solvents.

There is a school immediately behind the Champion International facility, within 500 feet, and several houses within a few hundred feet of the facility which could be immediately affected by an air or fire hazard at the plant (Ref. 15). Due to the lack of information available about the onsite drum disposal area, and Champion's reluctance to resolve the matter, the waste quantity and toxicity/persistence levels have been maximized for the evaluation of this facility.

Based upon the enclosures, the uncertainty of the nature of the old drum disposal area, the previous careless disposal practices, and the potential for contamination of the air and the surface waters, a site screening investigation is recommended on a medium priority basis. If you have any questions concerning this matter, feel free to contact me at NUS Corporation.

Very truly yours,

Jerri Higgins

Jerri Higgins
Geologist

Approved

Arnie Ostrofsky

JH/gwn

Enclosures (2)

cc: Scott Gardner

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HAZARD RANKING SYSTEM SCORING SUMMARY

FOR

CHAMPION INTERNATIONAL CORPORATION
ERRIS SITE NUMBER SCD003046177
ORANGEBURG
ORANGEBURG COUNTY, SC
EPA REGION: 4

SCORE STATUS: IN PREPARATION

SCORED BY JERRY HIGGINS
OF NUS CORPORATION
ON 01/25/88

DATE OF THIS REPORT: 03/30/88
DATE OF LAST MODIFICATION: 03/30/88

GROUND WATER ROUTE SCORE	:	34.29
SURFACE WATER ROUTE SCORE	:	14.55
AIR ROUTE SCORE	:	0.00
MIGRATION SCORE	:	21.53

HRS GROUND WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. ROUTE CHARACTERISTICS			
DEPTH TO WATER TABLE	40 FEET		
DEPTH TO BOTTOM OF WASTE	6 FEET		
DEPTH TO AQUIFER OF CONCERN	34 FEET	2	4
PRECIPITATION	48.0 INCHES		
EVAPORATION	43.0 INCHES		
NET PRECIPITATION	5.0 INCHES	2	2
PERMEABILITY	1.0X10-2 CM/SEC	3	3
PHYSICAL STATE		3	3
TOTAL ROUTE CHARACTERISTICS SCORE:			12
3. CONTAINMENT		3	3
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:CHROMIUM			18
WASTE QUANTITY CUBIC YDS	0		
DRUMS	10001		
GALLONS	0		
TONS	0		
TOTAL	2500 CU. YDS	8	8
TOTAL WASTE CHARACTERISTICS SCORE:			26
5. TARGETS			
GROUND WATER USE		3	9
DISTANCE TO NEAREST WELL	7500 FEET		
AND	MATRIX VALUE	12	12
TOTAL POPULATION SERVED	285 PERSONS		
NUMBER OF HOUSES	75		
NUMBER OF PERSONS	0		
NUMBER OF CONNECTIONS	0		
NUMBER OF IRRIGATED ACRES	0		
TOTAL TARGETS SCORE:			21

GROUND WATER ROUTE SCORE (Sgw) = 34.29

SITE: CHAMPION INTERNATIONAL CORPORATION

HRS SURFACE WATER ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0
2. ROUTE CHARACTERISTICS			
SITE LOCATED IN SURFACE WATER	NO		
SITE WITHIN CLOSED BASIN	NO		
FACILITY SLOPE	2.5 %		
INTERVENING SLOPE	2.5 %	0	0
24-HOUR RAINFALL	3.5 INCHES	3	3
DISTANCE TO DOWN-SLOPE WATER	5 FEET	3	6
PHYSICAL STATE	3		3
TOTAL ROUTE CHARACTERISTICS SCORE:			12
3. CONTAINMENT	3		3
4. WASTE CHARACTERISTICS			
TOXICITY/PERSISTENCE:CHROMIUM			18
WASTE QUANTITY CUBIC YDS	0		
DRUMS	10001		
GALLONS	0		
TONS	0		
TOTAL	2500 CU. YDS	8	8
TOTAL WASTE CHARACTERISTICS SCORE:			26
5. TARGETS			
SURFACE WATER USE		2	6
DISTANCE TO SENSITIVE ENVIRONMENTS		2	4
COASTAL WETLANDS	NONE		
FRESH-WATER WETLANDS	2000 FEET		
CRITICAL HABITAT	2000 FEET		
DISTANCE TO STATIC WATER	> 3 MILES		
DISTANCE TO WATER SUPPLY INTAKE	> 3 MILES		
AND	MATRIX VALUE	0	0
TOTAL POPULATION SERVED	0		
NUMBER OF HOUSES	0		
NUMBER OF PERSONS	0		
NUMBER OF CONNECTIONS	0		
NUMBER OF IRRIGATED ACRES	0		
TOTAL TARGETS SCORE:			10

SITE: CHAMPION INTERNATIONAL CORPORATION PAGE 4

HRS AIR ROUTE SCORE

CATEGORY/FACTOR	RAW DATA	ASN. VALUE	SCORE
1. OBSERVED RELEASE	NO	0	0

2. WASTE CHARACTERISTICS

REACTIVITY:

MATRIX VALUE

INCOMPATIBILITY

TOXICITY

WASTE QUANTITY CUBIC YARDS
DRUMS
GALLONS
TONS

TOTAL

TOTAL WASTE CHARACTERISTICS SCORE: N/A

3. TARGETS

POPULATION WITHIN 4-MILE RADIUS
0 to 0.25 mile
0 to 0.50 mile
0 to 1.0 mile
0 to 4.0 miles

DISTANCE TO SENSITIVE ENVIRONMENTS
COASTAL WETLANDS
FRESH-WATER WETLANDS
CRITICAL HABITAT

DISTANCE TO LAND USES
COMMERCIAL/INDUSTRIAL
PARK/FOREST/RESIDENTIAL
AGRICULTURAL LAND
PRIME FARMLAND
HISTORIC SITE WITHIN VIEW?

TOTAL TARGETS SCORE: N/A

AIR ROUTE SCORE (Sa) = 0.00

HAZARD RANKING SYSTEM SCORING CALCULATIONS
FOR
SITE: CHAMPION INTERNATIONAL CORPORATION
AS OF 03/30/88

GROUND WATER ROUTE SCORE

ROUTE CHARACTERISTICS		12
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	26
TARGETS	X	21

= 19656 /57,330 X 100 = 34.29 = S_{gw}

SURFACE WATER ROUTE SCORE

ROUTE CHARACTERISTICS		12
CONTAINMENT	X	3
WASTE CHARACTERISTICS	X	26
TARGETS	X	10

= 9360 /64,350 X 100 = 14.55 = S_{sw}

AIR ROUTE SCORE

OBSERVED RELEASE 0 /35,100 X 100 = 0.00 = S_{air}

SUMMARY OF MIGRATION SCORE CALCULATIONS

	S	S^2
GROUND WATER ROUTE SCORE (S_{gw})	34.29	1175.80
SURFACE WATER ROUTE SCORE (S_{sw})	14.55	211.70
AIR ROUTE SCORE (S_{air})	0.00	0.00
$S^2_{gw} + S^2_{sw} + S^2_{air}$		1387.50
$\sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}$		37.25
$S_M = \sqrt{(S^2_{gw} + S^2_{sw} + S^2_{air})}/1.73$		21.53

RECONNAISSANCE CHECKLIST FOR HRS2 CONCERNS

Instructions: Obtain as much "up front" information as possible prior to conducting fieldwork. Complete the form in as much detail as you can, providing attachments as necessary. Cite the source for all information obtained.

Site name: Champion International Corporation
City, County, State: Orangeburg, Orangeburg, South Carolina
EPA ID No.: SCD003342177
Person responsible for form: Jerri Higgins
Date: 03/25/88

Air Pathway

Describe any potential air emission sources onsite: Glues + solvents used at plant. Burning of glue sludge in fuel-fired boilers without district air personnel being aware.

Identify any sensitive environments within 4 miles: Carolina Bays, fresh water wetlands, marshy areas surround the area (topo map, Ref 11, 13)

Identify the maximally exposed individual (nearest residence or regularly occupied building - workers do count): Workers at Decolam, Inc. (Ref. 1)

Groundwater Pathway

Identify any areas of karst terrain: — N/A

Identify additional population due to consideration of wells completed in overlying aquifers to the AOC: — N/A

Do significant targets exist between 3 and 4 miles from the site? no municipal supplies.

Is the AOC a sole source aquifer according to Safe Drinking Water Act? (i.e. is the site located in Dade, Broward, Volusia, Putnam, or Flager County, Florida) no

Surface Water Pathway

Are there intakes located on the extended 15-mile migration pathway? no

Are there recreational areas, sensitive environments, or human food chain targets (fisheries) along the extended pathway? yes, Middle Pen Creek, swamps, Carolina Bays.

Onsite Exposure Pathway

Is there waste or contaminated soil onsite at 2 feet below land surface or higher? yes, drums at rear (Ref. 7, 8)

Is the site accessible to non-employees (workers do not count)? not sure, in a dense industrial area, difficult to see back into property for a fence.

Are there residences, schools, or daycare centers onsite or in close proximity? yes, Whittaker School, directly behind facility, less than 500 feet away (topo map)

Are there barriers to travel (e.g., a river) within one mile? yes, Middle Pen Creek (topo map)

M.2 - SITE MAINTENANCE FORM

* ACTION: _ *

EPA ID : SCD003342177

SITE NAME: CHAMPION INTERNATIONAL CORP   SOURCE: N

STREET : 5 CHOP RD   CONG DIST: 02

CITY : ORANGEBURG   ZIP: 29115

CNTY NAME: ORANGEBURG   CNTY CODE : 075

LATITUDE : 33/29/42.0   LONGITUDE : 080/51/36.0

LL-SOURCE: R   LL-ACCURACY:

SMSA :   HYDRO UNIT: 03050203

INVENTORY IND: Y REMEDIAL IND: Y REMOVAL IND: N FED FAC IND: N

NPL IND: N   NPL LISTING DATE: NPL DELISTING DATE:

SITE/SPILL IDS:

RPM NAME: RPM PHONE: - -

SITE CLASSIFICATION: SITE APPROACH:

DIOXIN TIER: REG FLD1:   REG FLD2:

RESP TERM: PENDING ( )   NO FURTHER ACTION (X)   * PENDING (_)   NO FURTHER ACTION (_) *

ENF DISP: NO VIABLE RESP PARTY ( )   VOLUNTARY RESPONSE ( )
ENFORCED RESPONSE ( )   COST RECOVERY ( )

SITE DESCRIPTION:

M.2 - PROGRAM MAINTENANCE FORM

* ACTION: _ *

SITE: CHAMPION INTERNATIONAL CORP

EPA ID: SCD003342177 PROGRAM CODE: H01 PROGRAM TYPE: * _ *

PROGRAM QUALIFIER: ALIAS LINK : * ___ __ *

PROGRAM NAME: SITE EVALUATION * ______________________________ *

DESCRIPTION:

* ____ *

* ____ *

* ____ *

* ____ *

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: CHAMPION INTERNATIONAL CORP
PROGRAM: SITE EVALUATION

EPA ID: SCD003342177 PROGRAM CODE: H01 EVENT TYPE: DS1

FMS CODE: EVENT QUALIFIER : EVENT LEAD: E * _ ___ _ *

EVENT NAME: DISCOVERY STATUS: * ______________________________ _ *

DESCRIPTION:

* ______________________________ *
* ______________________________ *
* ______________________________ *
* ______________________________ *

ORIGINAL	CURRENT	ACTUAL
START:	START:	START:
COMP :	COMP :	COMP : 06/01/81

* __/__/__ __/__/__ __/__/__ *
* __/__/__ __/__/__ __/__/__ *

HQ COMMENT:

* ______________________________ *

RG COMMENT:

* ______________________________ *

COOP AGR #	AMENDMENT #	STATUS	STATE %
			0

* ________ ________ __ ___ *

M.2 - EVENT MAINTENANCE FORM

* ACTION: _ *

SITE: CHAMPION INTERNATIONAL CORP
PROGRAM: SITE EVALUATION

EPA ID: SCD003342177 PROGRAM CODE: H01 EVENT TYPE: PA1

FMS CODE: EVENT QUALIFIER : EVENT LEAD: * _ ___ _ *

EVENT NAME: PRELIMINARY ASSESSMENT STATUS: * ______________________________ _ *

DESCRIPTION:

* ____ *
* ____ *
* ____ *
* ____ *

ORIGINAL	CURRENT	ACTUAL			
START:	START:	START:	* __/__/__	__/__/__	__/__/__ *
COMP :	COMP :	COMP : 09/01/82	* __/__/__	__/__/__	__/__/__ *

HQ COMMENT:

* ____ *

RG COMMENT:

* ____ *

COOP AGR #	AMENDMENT #	STATUS	STATE %
			0

* __________ __________ __ ___ *

MAR 15 1983

EPA POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION 4 | SITE NUMBER (to be assigned by Hq)

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II (*Preliminary Assessment*). File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (*EN-335*); 401 M St., SW; Washington, DC 20460.

ATION

EET (or other identifier)

SCD003342177 ORANGEBURG
CHAMPION INTERNATIONAL CORE
FIVE CHOP RD
ORANGEBURG SC 29115
FOGLE, OZZIE, MGR/FIN DE* 8035342632

TE | E. ZIP CODE | F. COUNTY NAME

2. TELEPHONE NUMBER

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☑ 5. PRIVATE ☐ 6. UNKNOWN

I. SITE DESCRIPTION Landfill

"103-C NOTIFICATION" DATE: 810609
EARL WILLIAMS
PHONE: 803-758-5544

K. DATE IDENTIFIED (mo., day, & yr.)

2. TELEPHONE NUMBER

plete this section last)

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☑ 4. NONE ☐ 5. UNKNOWN

B. RECOMMENDATION

☑ 1. NO ACTION NEEDED (no hazard)

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 4. SITE INSPECTION NEEDED (low priority)

C. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
Dorothy Browning	803-758-5681	9-14-82

III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE (*Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.*)

☑ 2. INACTIVE (*Those sites which no longer receive wastes.*)

☐ 3. OTHER (specify): (*Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.*)

B. IS GENERATOR ON SITE?

☐ 1. NO ☑ 2. YES (specify generator's four-digit SIC Code):

C. AREA OF SITE (in acres) ?

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES
1. LATITUDE (deg.-min.-sec.)
2. LONGITUDE (deg.-min.-sec.)

E. ARE THERE BUILDINGS ON THE SITE?

☐ 1. NO ☑ 2. YES (specify):

T2070-2 (10-79)

Continue On Reverse

Continued From Front

IV. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	X	B. STORER	X	C. TREATER	'X'	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION	✓	1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS. TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (*specify*):		6. OTHER (*specify*):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (*specify*):
					9. OTHER (*specify*):		

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED

Waste was organics and solvents from Champion Int. Corp. Champion International has interim status authorization Orangeburg County Landfill is permitted Domestic Waste Permit 051.

V. WASTE RELATED INFORMATION

A. WASTE TYPE

- [x] 1 UNKNOWN
- [x] 2 LIQUID
- [ ] 3 SOLID
- [ ] 4 SLUDGE
- [ ] 5 GAS

B. WASTE CHARACTERISTICS

- [x] 1 UNKNOWN
- [ ] 2 CORROSIVE
- [ ] 3 IGNITABLE
- [ ] 4 RADIOACTIVE
- [ ] 5 HIGHLY VOLATILE
- [x] 6 TOXIC
- [ ] 7 REACTIVE
- [ ] 8 INERT
- [ ] 9 FLAMMABLE
- [ ] 10 OTHER (*specify*):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No.

2. Estimate the amount (*specify unit of measure*) of waste by category; mark 'X' to indicate which wastes are present.

	a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT			?			?
UNIT OF MEASURE						
'X'	(1) PAINT, PIGMENTS	(1) OILY WASTES	(1) HALOGENATED SOLVENTS	(1) ACIDS	(1) FLYASH	(1) LABORATORY PHARMACEUT.
	(2) METALS SLUDGES	(2) OTHER (*specify*):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
	(3) POTW		(3) OTHER (*specify*):	(3) CAUSTICS	(3) MILLING/MINE TAILINGS	(3) RADIOACTIVE
	(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMLTG. WASTES	(4) MUNICIPAL
	(5) OTHER (*specify*):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER (*specify*):
				(6) CYANIDE	(6) OTHER (*specify*):	
				(7) PHENOLS		
				(8) HALOGENS		
				(9) PCB		
				(10) METALS		
				(11) OTHER (*specify*):		

Continue On Page 3

Continued From Page 2

V. WASTE RELATED INFORMATION *(continued)*

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE *(place in descending order of hazard).*

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

Prefinished wash solvents from manufacturing of paneling. Waste had been sent to Orangeburg County Landfill which is permitted S.7,

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD *(mark 'X')*	C. ALLEGED INCIDENT *(mark 'X')*	D. DATE OF INCIDENT *(mo., day, yr.)*	E. REMARKS
A 1. NO HAZARD	X			
2. HUMAN HEALTH				
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY				
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER				
8. CONTAMINATION OF SURFACE WATER				
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL				
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL				
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS				
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER *(specify)*:				

 Continue On Reverse

Continued From Front

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

- [ ] 1 NPDES PERMIT
- [ ] 2 SPCC PLAN
- [ ] 3. STATE PERMIT *(specify)*:
- [ ] 4 AIR PERMITS
- [ ] 5 LOCAL PERMIT
- [ ] 6 RCRA TRANSPORTER
- [x] 7 RCRA STORER
- [ ] 8 RCRA TREATER
- [ ] 9 RCRA DISPOSER
- [ ] 10. OTHER *(specify)*: Champion International Corp. is an Interim Status Facility.

B. IN COMPLIANCE?

- [ ] 1. YES
- [ ] 2 NO
- [x] 3 UNKNOWN

4 WITH RESPECT TO *(list regulation name & number)*:

VIII. PAST REGULATORY ACTIONS

- [x] A. NONE
- [ ] B. YES *(summarize below)*

IX. INSPECTION ACTIVITY *(past or on-going)*

- [x] A NONE
- [x] B. YES *(complete items 1,2,3, & 4 below)*

1 TYPE OF ACTIVITY	2 DATE OF PAST ACTION *(mo., day, & yr.)*	3 PERFORMED BY: *(EPA/State)*	4. DESCRIPTION
Inspection	Monthly	State	Orangeburg County Landfill inspected monthly.

X. REMEDIAL ACTIVITY *(past or on-going)*

- [x] A. NONE
- [ ] B. YES *(complete items 1, 2, 3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION *(mo., day, & yr.)*	3. PERFORMED BY: *(EPA/State)*	4. DESCRIPTION

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment *(Section II)* information on the first page of this form.

EPA

POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION: 4

SITE NUMBER (to be assigned by Hq)

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II (*Preliminary Assessment*). File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force (*EN-335*); 401 M St., SW; Washington, DC 20460.

ATION

EET (or other identifier)

SCD003342177 ORANGEBURG
CHAMPION INTERNATIONAL CORP
FIVE CHOP RD
ORANGEBURG SC 29115
FOGLE, OZZIE, MGR/FIN DE* 8035342632

TE | E. ZIP CODE | F. COUNTY NAME

2. TELEPHONE NUMBER

☐ 1. FEDERAL ☐ 2. STATE ☐ 3. COUNTY ☐ 4. MUNICIPAL ☑ 5. PRIVATE ☐ 6. UNKNOWN

I. SITE DESCRIPTION: Landfill

"103-C NOTIFICATION" DATE: 810609
EARL WILLIAMS
PHONE: 803-758-5544

K. DATE IDENTIFIED (mo., day, & yr.)

2. TELEPHONE NUMBER

mplete this section last)

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3. LOW ☑ 4. NONE ☐ 5. UNKNOWN

B. RECOMMENDATION

☑ 1. NO ACTION NEEDED (no hazard)

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR:
b. WILL BE PERFORMED BY:

☐ 4. SITE INSPECTION NEEDED (low priority)

C. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
[illegible] Browning	803-758-5681	9-14-82

III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE (*Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.*)

☑ 2. INACTIVE (*Those sites which no longer receive wastes.*)

☐ 3. OTHER (specify): (*Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.*)

B. IS GENERATOR ON SITE?

☐ 1. NO ☑ 2. YES (specify generator's four-digit SIC Code):

C. AREA OF SITE (in acres): ?

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES
1. LATITUDE (deg.-min.-sec.)
2. LONGITUDE (deg.-min.-sec.)

E. ARE THERE BUILDINGS ON THE SITE?

☐ 1. NO ☑ 2. YES (specify):

EPA

POTENTIAL HAZARDOUS WASTE SITE IDENTIFICATION AND PRELIMINARY ASSESSMENT

REGION: 4

SITE NUMBER (to be assigned by Hq)

NOTE: This form is completed for each potential hazardous waste site to help set priorities for site inspection. The information submitted on this form is based on available records and may be updated on subsequent forms as a result of additional inquiries and on-site inspections.

GENERAL INSTRUCTIONS: Complete Sections I and III through X as completely as possible before Section II *(Preliminary Assessment)*. File this form in the Regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

ATION

EET (or other identifier)

SCD003342177 ORANGEBURG
CHAMPION INTERNATIONAL CORP
FIVE CHOP RD
ORANGEBURG SC 29115
FOGLE, OZZIE, MGR/FIN DE* 8035342632

TE | E. ZIP CODE | F. COUNTY NAME

2. TELEPHONE NUMBER

☐ 1. FEDERAL ☐ 2. STATE ☐ 3 COUNTY ☐ 4 MUNICIPAL ☑ 5 PRIVATE ☐ 6 UNKNOWN

I. SITE DESCRIPTION Landfill

"103-C NOTIFICATION" DATE: 810609
EARL WILLIAMS
PHONE: 803-758-5544

K. DATE IDENTIFIED (mo., day, & yr.)

2. TELEPHONE NUMBER

plete this section last)

A. APPARENT SERIOUSNESS OF PROBLEM

☐ 1. HIGH ☐ 2. MEDIUM ☐ 3 LOW ☑ 4 NONE ☐ 5 UNKNOWN

B. RECOMMENDATION

☑ 1. NO ACTION NEEDED *(no hazard)*

☐ 2. IMMEDIATE SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR
b. WILL BE PERFORMED BY:

☐ 3. SITE INSPECTION NEEDED
a. TENTATIVELY SCHEDULED FOR
b. WILL BE PERFORMED BY:

☐ 4. SITE INSPECTION NEEDED *(low priority)*

C. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE (mo., day, & yr.)
Dolphin Browning	803-758-5681	9-14-82

III. SITE INFORMATION

A. SITE STATUS

☐ 1. ACTIVE *(Those industrial or municipal sites which are being used for waste treatment, storage, or disposal on a continuing basis, even if infrequently.)*

☑ 2. INACTIVE *(Those sites which no longer receive wastes.)*

☐ 3. OTHER *(specify):* *(Those sites that include such incidents like "midnight dumping" where no regular or continuing use of the site for waste disposal has occurred.)*

B. IS GENERATOR ON SITE?

☐ 1. NO ☑ 2. YES *(specify generator's four-digit SIC Code):*

C. AREA OF SITE *(in acres)*: 2

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH, SPECIFY COORDINATES
1. LATITUDE *(deg.—min.—sec.)* 2. LONGITUDE *(deg.—min.—sec.)*

E. ARE THERE BUILDINGS ON THE SITE?

☐ 1. NO ☑ 2. YES *(specify):*

Continued From Front

IV. CHARACTERIZATION OF SITE ACTIVITY

Indicate the major site activity(ies) and details relating to each activity by marking 'X' in the appropriate boxes.

'X'	A. TRANSPORTER	'X'	B. STORER	'X'	C. TREATER	'X'	D. DISPOSER
	1. RAIL		1. PILE		1. FILTRATION	✓	1. LANDFILL
	2. SHIP		2. SURFACE IMPOUNDMENT		2. INCINERATION		2. LANDFARM
	3. BARGE		3. DRUMS		3. VOLUME REDUCTION		3. OPEN DUMP
	4. TRUCK		4. TANK, ABOVE GROUND		4. RECYCLING/RECOVERY		4. SURFACE IMPOUNDMENT
	5. PIPELINE		5. TANK, BELOW GROUND		5. CHEM./PHYS. TREATMENT		5. MIDNIGHT DUMPING
	6. OTHER (specify):		6. OTHER (specify):		6. BIOLOGICAL TREATMENT		6. INCINERATION
					7. WASTE OIL REPROCESSING		7. UNDERGROUND INJECTION
					8. SOLVENT RECOVERY		8. OTHER (specify):
					9. OTHER (specify):		

E. SPECIFY DETAILS OF SITE ACTIVITIES AS NEEDED

Waste was organics and solvents from Champion Int. Corp.
Champion International has interim status authorization
Orangeburg County Landfill is permitted Domestic Waste Permit 051.

V. WASTE RELATED INFORMATION

A. WASTE TYPE

☑ 1 UNKNOWN ☑ 2 LIQUID ☐ 3. SOLID ☐ 4. SLUDGE ☐ 5. GAS

B. WASTE CHARACTERISTICS

☑ 1 UNKNOWN ☐ 2. CORROSIVE ☐ 3. IGNITABLE ☐ 4 RADIOACTIVE ☐ 5 HIGHLY VOLATILE
☑ 6 TOXIC ☐ 7 REACTIVE ☐ 8 INERT ☐ 9 FLAMMABLE

☐ 10. OTHER (specify):

C. WASTE CATEGORIES

1. Are records of wastes available? Specify items such as manifests, inventories, etc. below.

No.

2. Estimate the amount (specify unit of measure) of waste by category; mark 'X' to indicate which wastes are present.

	a. SLUDGE	b. OIL	c. SOLVENTS	d. CHEMICALS	e. SOLIDS	f. OTHER
AMOUNT			?			?
UNIT OF MEASURE						
'X'	(1) PAINT, PIGMENTS	(1) OILY WASTES	(1) HALOGENATED SOLVENTS	(1) ACIDS	(1) FLYASH	(1) LABORATORY PHARMACEUT.
	(2) METALS SLUDGES	(2) OTHER (specify):	(2) NON-HALOGNTD. SOLVENTS	(2) PICKLING LIQUORS	(2) ASBESTOS	(2) HOSPITAL
	(3) POTW		(3) OTHER (specify):	(3) CAUSTICS	(3) MILLING/ MINE TAILINGS	(3) RADIOACTIVE
	(4) ALUMINUM SLUDGE			(4) PESTICIDES	(4) FERROUS SMLTG. WASTES	(4) MUNICIPAL
	(5) OTHER (specify):			(5) DYES/INKS	(5) NON-FERROUS SMLTG. WASTES	(5) OTHER (specify):
				(6) CYANIDE	(6) OTHER (specify):	
				(7) PHENOLS		
				(8) HALOGENS		
				(9) PCB		
				(10) METALS		
				(11) OTHER (specify)		

Continue On Page 3

Continued From Page 2

V. WASTE RELATED INFORMATION *(continued)*

3. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE *(place in descending order of hazard).*

4. ADDITIONAL COMMENTS OR NARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

Prefinished [illegible] wash solvents from manufacturing of gasoline
Waste had been sent to Orangeburg County landfill which is permitted.

VI. HAZARD DESCRIPTION

A. TYPE OF HAZARD	B. POTENTIAL HAZARD *(mark 'X')*	C. ALLEGED INCIDENT *(mark 'X')*	D. DATE OF INCIDENT *(mo., day, yr.)*	E. REMARKS
1. NO HAZARD	X			
2. HUMAN HEALTH				
3. NON-WORKER INJURY/EXPOSURE				
4. WORKER INJURY				
5. CONTAMINATION OF WATER SUPPLY				
6. CONTAMINATION OF FOOD CHAIN				
7. CONTAMINATION OF GROUND WATER				
8. CONTAMINATION OF SURFACE WATER				
9. DAMAGE TO FLORA/FAUNA				
10. FISH KILL				
11. CONTAMINATION OF AIR				
12. NOTICEABLE ODORS				
13. CONTAMINATION OF SOIL				
14. PROPERTY DAMAGE				
15. FIRE OR EXPLOSION				
16. SPILLS/LEAKING CONTAINERS/ RUNOFF/STANDING LIQUIDS				
17. SEWER, STORM DRAIN PROBLEMS				
18. EROSION PROBLEMS				
19. INADEQUATE SECURITY				
20. INCOMPATIBLE WASTES				
21. MIDNIGHT DUMPING				
22. OTHER *(specify):*				

Continue On Reverse

Continued From Front

VII. PERMIT INFORMATION

A. INDICATE ALL APPLICABLE PERMITS HELD BY THE SITE.

- [ ] 1. NPDES PERMIT
- [ ] 2. SPCC PLAN
- [ ] 3. STATE PERMIT *(specify)*:
- [ ] 4. AIR PERMITS
- [ ] 5. LOCAL PERMIT
- [ ] 6. RCRA TRANSPORTER
- [x] 7. RCRA STORER
- [ ] 8. RCRA TREATER
- [ ] 9. RCRA DISPOSER
- [ ] 10. OTHER *(specify)*: Champion International Corp. is an Interim Status Facility.

B. IN COMPLIANCE?

- [ ] 1. YES
- [ ] 2. NO
- [x] 3. UNKNOWN

4. WITH RESPECT TO *(list regulation name & number)*:

VIII. PAST REGULATORY ACTIONS

- [x] A. NONE
- [ ] B. YES *(summarize below)*

IX. INSPECTION ACTIVITY *(past or on-going)*

- [x] A. NONE
- [x] B. YES *(complete items 1,2,3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION
inspection	Monthly	State	Orangeburg County Landfill inspected monthly.

X. REMEDIAL ACTIVITY *(past or on-going)*

- [x] A. NONE
- [ ] B. YES *(complete items 1, 2, 3, & 4 below)*

1. TYPE OF ACTIVITY	2. DATE OF PAST ACTION (mo., day, & yr.)	3. PERFORMED BY: (EPA/State)	4. DESCRIPTION

NOTE: Based on the information in Sections III through X, fill out the Preliminary Assessment *(Section II)* information on the first page of this form.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Form Approved O.M.B No. 158-S79016
No. 0246

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO. ~~SCD000506170~~

I. NAME OF INSTALLATION ~~U.S. PLYWOOD~~

II. INSTALLATION MAILING ADDRESS
PO BOX 1087
ORANGEBURG, SC 29115

III. LOCATION OF INSTALLATION
FIVE CHOP ROAD
ORANGEBURG, SC 29115

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law (Section 3010 of the Resource Conservation and Recovery Act).

00 293

RE EPA/ AUG 20 1980 ENFORCEMENT

FOR OFFICIAL USE ONLY

COMMENTS

C

INSTALLATION'S EPA I.D. NUMBER	T/A	C	APPROVED	DATE RECEIVED (yr., mo., & day)
F SCD003342177	2	1		800816

I. NAME OF INSTALLATION

CHAMPION BUILDING PRODUCTS

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX

3

CITY OR TOWN	ST.	ZIP CODE
4		

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER

5

CITY OR TOWN	ST.	ZIP CODE
6		

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title)	PHONE NO. (area code & no.)
2 PRESLEY RON MGR. ENV AFFAIRS	513-868-4261

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER

8 CHAMPION INTERNATIONAL CORPORATION

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)

F = FEDERAL
M = NON-FEDERAL

M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [X] A. GENERATION
- [ ] B. TRANSPORTATION (complete item VII)
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.
SCD000506170

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

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W SCD003342177 | T/A 2 | C 1

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON-SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.31 for each listed hazardous waste from non-specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F005	F005				

7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four-digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18

19	20	21	22	23	24

25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four-digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36

37	38	39	40	41	42

43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four-digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON-LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non-listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

- [X] 1. IGNITABLE (D001)
- [X] 2. CORROSIVE (D002)
- [ ] 3. REACTIVE (D003)
- [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
Fred W. Rigden	Fred Rigden, Operations Manager	8/15/80

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only.

Form Approved OMB No. 158-S79016
No. 0246-EPA-OT

EPA U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.: ~~SCD000506170~~

I. NAME OF INSTALLATION: ~~U.S. PLYWOOD~~

II. INSTALLATION MAILING ADDRESS: PO BOX 1087 ORANGEBURG, SC 29115

III. LOCATION OF INSTALLATION: FIVE CHOP ROAD ORANGEBURG, SC 29115

0302

RECEIVED EPA/REGION NOV 24 1 06 PM ENFORC...

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C 3

INSTALLATION'S EPA I.D. NUMBER	T/A	C	APPROVED	DATE RECEIVED (yr., mo., & day)
F SCD003342177	2	1		801124

I. NAME OF INSTALLATION

CHAMPION BUILDING PRODUCTS

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3

CITY OR TOWN: 4 | ST. | ZIP CODE

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5

CITY OR TOWN: 6 | ST. | ZIP CODE

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title)	PHONE NO. (area code & no.)
2 PRESLEY RON MGR ENV AFFAIRS	513-868-4261

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: 8

DETACH

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)

F = FEDERAL
M = NON-FEDERAL

M

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

[X] A. GENERATION
[ ] B. TRANSPORTATION *(complete item VII)*
Delete [ ] C. TREAT/STORE/DISPOSE
[ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only – enter "X" in the appropriate box(es))*

[ ] A. AIR [ ] B. RAIL [ ] C. HIGHWAY [ ] D. WATER [ ] E. OTHER *(specify):*

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

[ ] A. FIRST NOTIFICATION
[X] B. SUBSEQUENT NOTIFICATION *(complete item C)*

C. INSTALLATION'S EPA I.D. NO.: SCD000506170

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

I.D. – FOR OFFICIAL USE ONLY

														T/A	C
W	S	C	D	0	0	3	3	4	2	1	7	7		2	1

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F005	F005				

7	8	9	10	11	12

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37	38	39	40	41	42

43	44	45	46	47	48

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- [X] 1. IGNITABLE (D001)
- [X] 2. CORROSIVE (D002)
- [ ] 3. REACTIVE (D003)
- [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
[signature]	Fred Rigden Operations Manager	11-19-80

EPA Form 8700-12 (6-80) REVERSE

SCD00 334 ?/??

Champion International Corporation

Richard C. Wigger
Vice President—State
and Environmental Affairs

1 Landmark Square
Stamford, Connecticut 06921
Telephone 203 358 7246

October 9, 1980

Mr. Douglas M. Costle
Administrator
Office of Solid Waste WH 563
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Dear Mr. Costle:

In accordance with the requirements of Section 3010 of the Resource Conservation and Recovery Act (RCRA), Public Law 94-580, and the regulations promulgated thereunder, Champion International Corporation filed, in a timely manner, "Notification of Hazardous Waste Activity Forms" for 64 facilities operating in various U.S. EPA regions throughout the country (see attached list). Champion's good faith effort to comply with the notification requirements of RCRA entailed the expenditure of thousands of man-hours of testing, analysis and reporting. In all cases, Champion attempted to resolve questions about the meaning or interpretation of the regulations so as to comply with the perceived spirit as well as the letter of the law. In spite of this, Champion is concerned about the absence of clear guidance prior to the notification date from the EPA with respect to the meaning of several sections of Part 261, "Identification and Listing of Hazardous Wastes," 45 F.R. 33048 et seq. (May 19, 1980).

In addition, we call your attention to the frequent reference in Part 261, Subpart B and in the preamble to the May 19 regulations to document SW-846, suggesting that test methods used must be in agreement with this document to be correct. To our knowledge, SW-846 was not available until July 3, 1980 and was not received by us until July 7, 1980 even though multiple requests were made to the Information Office in Cincinnati, Ohio, in an effort to obtain a copy to guide us in our testing program.

EPA has acknowledged a need for clarification of the regulations and has published its intention to issue Regulatory Information Memoranda (RIMS) and Technical Amendments to the Regulations (TARS) for that purpose. Unfortunately, these clarifications were not published in time to be of benefit to those persons who had to notify prior to August 18, 1980. In fact, none of the RIMS or TARS has yet been published. As a result, the notification forms had to be completed while a number of significant issues remain to be resolved.

It is possible that subsequent publications by EPA aimed at clarifying the May 19 regulations will result in a determination by Champion that additional reporting was required prior to August 18, 1980 but that we were unable to do so because of the lack of adequate guidance from EPA. In such a case, we expect to be afforded the opportunity to supplement our filing as of August 18, 1980 and to receive interim status protection for timely notification.

Champion recognizes the enormous and important task EPA has understaken in carrying out the RCRA program. We trust that the magnitude of our effort to comply with the law is equally appreciated by EPA and that our understanding with respect to supplemental filings accords with EPA policy.

Very truly yours,

Richard C. Wigger

Richard C. Wigger
Vice President

RCW:ms

Attachment

cc: EPA Regional Administrators:

Mr. William R. Adams, Jr.
Mr. Charles Warren
Mr. Jack Schramm
Ms. Rebecca W. Hanmer
Mr. John C. McGuire
Ms. Adlene Harrison
Ms. Kathleen Q. Camin
Mr. Roger L. Williams
Ms. Sheila Prindiville
Mr. Donald P. Dubois

REGION I	Champion Packaging Corrugating Plant 47 Maple Street Post Office Box 389 Mansfield, MA 02048
REION II	Champion Packaging Coldenham Road Post Office Box 271 Walden, NY 12586
	Buffalo Envelope 270 Michigan Avenue Buffalo, NY 14203
REGION III	Champion Packaging Post Office Box 25 Richmond, VA 23201
	Champion Building Products South Boston Plant Highway 304 Post Office Drawer 250 South Boston, VA 24592
REGION IV	Champion Packaging Post Office Box 580 Roanoke Rapids, NC 27870
	Champion Packaging Walltown Road Post Office Box 2086 Lexington, NC 27292
	Champion Paper Mill Main Street Canton, NC 28716
	Champion Building Products Catawba Hardboard Plant Post Office Box 66 New Old Highway 21 Catawba, SC 29704
	Champion Building Products Newberry Plant Rural Route 1 Post Office Box 87 Silverstreet, SC 29145
	Champion Building Products Orangeburg Plant Five Chop Road Post Office Box 1087 Orangeburg, SC 29115

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia, S.C. 29201

MEMORANDUM

DATE: June 21, 1982

TO: Ed Gibson
Solid & Hazardous Waste

FROM: James M. Burckhalter JMB
Lower Savannah District EQC

SUBJECT: Champion International, Orangeburg County, formerly U. S. Plywood Corp., Interim status inspection, SCD 003 342 177

On June 16, 1982, George Nelson and the writer visited the referenced plant.

The plant is probably only a generator of hazardous waste. Central office records should already show them as only a generator, according to correspondence which is attached. Some of this correspondence was supplied by Champion.

Waste streams generated include solvent "finish" waste, solvent adhesive waste, waste oil and cured urea-formaldehyde glue waste.

Several hazardous waste facilities have been utilized. These include SCSCA Services, ABCO, and M & J Solvents in Georgia. Manifests for both South Carolina and Georgia appeared to be in order. Waste oil is collected by Harold Mason. Mr. Mason's permit status is unknown.

Champion's storage area consisted of a concrete pad and metal roof. Drums were labeled and had the necessary information. Champion does not store over ninety days. Labels supported this. Drums seemed in good condition.

The plant's contingency plan was difficult to assess. A one-page sheet listing phone numbers for plant personnel to handle emergencies during the day and night was available. This sheet is supplied to all plant personnel. It was suggested that the DHEC 24-hour number be added. A contingency plan covering all materials utilized at the plant was not available at the time of my visit. It had been sent to Ted Groszkiewicz (513-868-6660) at their Hamilton, Ohio, corporate headquarters for review. The plan had not yet been returned.

Record keeping practices seemed acceptable. Manifests, quarterly reports and other records were readily available.

The plant has three Air permits: O/P-38-135, O/P-38-136 and O/P-38-151.

Please print or type with ELITE type (aracters/inch) in the unshaded areas only.

Form Approved OMB No. 158-S80016
GSA No. 0246-EPA-OT

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

RECEIVED
AUG 15 1980
ENVIRONMENTAL AFFAIRS
SOLID WOOD-EAST

INSTALLATION'S EPA I.D. NO.	SCD000506170
I. NAME OF INSTALLATION	~~U. S. PLYWOOD~~
II. INSTALLATION MAILING ADDRESS	PO BOX 1087 ORANGEBURG, SC 29115
III. LOCATION OF INSTALLATION	FIVE CHOP ROAD ORANGEBURG, SC 29115

INSTRUCTIONS: If you received a preprinte[d la]bel, affix it in the space at left. If any of th[e in]formation on the label is incorrect, draw a lin[e th]rough it and supply the correct informatio[n i]n the appropriate section below. If the label [is c]omplete and correct, leave Items I, II, and I[II b]elow blank. If you did not receive a preprinte[d la]bel, complete all items. "Installation" means [a si]ngle site where hazardous waste is generated, [tr]eated, stored and/or disposed of, or a tran[sp]orter's principal place of business. Please refe[r t]o the INSTRUCTIONS FOR FILING NOTIF[IC]ATION before completing this form. Th[e in]formation requested herein is required by law (Section 3010 of the Resource Conservation and Recovery Act).

FOR OFFICIAL USE ONLY

COMMENTS

C

INSTALLATION'S EPA I.D. NUMBER	T/A	C	APPROVED	DATE RECEIVED (yr., mo., & day)
F		1		

I. NAME OF INSTALLATION

CHAMPION BUILDING PRODUCTS

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX

3

CITY OR TOWN	ST.	ZIP CODE
4		

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER

5

CITY OR TOWN	ST.	ZIP CODE
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IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title)	PHONE NO. (area code & no.)
2 PRESLEY RON MGR. ENV AFFAIRS	513 868 4261

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER

8 CHAMPION INTERNATIONAL CORPORATION

B. TYPE OF OWNERSHIP (enter the appropriate letter into box)

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M = NON-FEDERAL

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VI. TYPE OF HAZARDOUS WASTE ACTIVITY (enter "X" in the appropriate box(es))

- [x] A. GENERATION
- [ ] B. TRANSPORTATION (complete item VII)
- [x] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION (transporters only – enter "X" in the appropriate box(es))

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER (specify):

VIII. FIRST OR SUBSEQUENT NOTIFICATION

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- [x] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION (complete item C)

C. INSTALLATION'S EPA I.D. NO.

SCD000506170

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

I.D. – FOR OFFICIAL USE ONLY

W

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

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F005	F005				

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- [X] 2. CORROSIVE (D002)
- [ ] 3. REACTIVE (D003)
- [X] 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
Fred K. Rigden	Fred Rigden, Operations Manager	8/15/80

CERTIFIED MAIL

Champion International Corporation

Knightsbridge
Hamilton, Ohio 45020

October 1, 1980

South Carolina Department of Health
and Environmental Control
Solid and Hazardous Waste
Management Division
2600 Bull Street
Columbia, South Carolina 29201

Re: South Carolina Hazardous Waste Regulation, Permit Application

Gentlemen:

On Monday, September 29, 1980, our Orangeburg, South Carolina plant forwarded to your office three copies of their Hazardous Waste Facility Permit Application along with the necessary map and a copy of the EPA Notification of Hazardous Waste Activity form.

At the time of the mailing, the original copy was mistakenly mailed to our Hamilton, Ohio office. We are returning the original copy for your files and apologize for any inconvenience this may have caused.

Sincerely,

Jim Thompson, Assistant Manager
Eastern Environmental Affairs
Solid Wood Products

mg

Enc. 2

OCT 8
S. C. ... HEALTH AND
ENVIRONMENTAL CONTROL
SOLID WASTE

UTH CAROLINA DEPARTMENT OF HEALTH
AND ENVIRONMENTAL CONTROL
OLID AND HAZARDOUS WASTE
MANAGEMENT DIVISION
600 BULL STREET, COLUMBIA, SC 29201
one: (803) 758-5681

HAZARDOUS WASTE FACILITY PERMIT APPLICATION

Facility Name	Facility Contact	Title	Phone
Champion Building Products	Ozzie Fogle	Industrial Finishing Lab Mgr.	(803) 354-2632

	Street Number	City	State	Zip Code	County
Facility Address	Five Chop Road	Orangeburg	SC	29115	Orangeburg
Facility Mailing Address	P.O. Box 1087	Orangeburg	SC	29115	Orangeburg

Operator's Name	Operator's Contact	Title	Phone
Fred W. Rigden	Ozzie Fogle	Industrial Finishing Lab Mgr.	(803) 534-2632

	Street Number	City	State	Zip Code	County
Operator's Address	Five Chop Road	Orangeburg	SC	29115	Orangeburg
Operator's Mailing Address	P.O. Box 1087	Orangeburg	SC	29115	Orangeburg

Owner's Name	Owner's Contact	Title	Phone
Champion International Corp.	Ron Presley	Mgr. Environmental Affairs	(513) 868-4261

	Street Number	City	State	Zip Code	County
Owner's Address	1 Landmark Square	Stamford	CT	06921	
Owner's Mailing Address	1 Landmark Square	Stamford	CT	06921	

0. Type of Permit(s) Being Applied For

- ☐ Treatment (specify) ______
- ☐ Disposal (specify) ______
- ☒ Storage ☐ Temporary ☐ Experimental ☐ Emergency
- ☐ Other (specify) ______

11. Status of Applicant

- ☒ Corporation ☐ Partnership ☐ Proprietorship
- ☐ Government ☐ Not-for Profit Corporation
- ☐ Other (specify) ______

2. Site Status

- ☒ Owned ☐ To Be Leased for ____ Years**
- ☐ To Be Purchased* ☐ Rented or to be Rented**
- ☐ Presently Leased, Lease Expires ____**

* Enclose Copy of Option to Buy or other agreement
** Enclose Copy of Rent or Lease Agreement

13. Facility Status

- ☒ Existing Operation ☐ Proposed Operation
- ☐ To Be Modified ☐ Under Construction
- ☐ Other (specify) ______

4. Zoning

a. What is the present zoning of the site? None

b. Is zoning compatible with the intended use of the site? Yes

c. If a zoning change is needed, what should new zoning be? N/A

HEC 1989 (5/80)

15. Existing Environmental Permits	Type of Permit and Issuing Body		Permit No.	Date of Issue	Date of Expiration
Yes	Air	State	0/P-38-151	07/06/76	07/06/81

16. Facility Description

Provide a topographic map of the area showing the boundaries of the property for a distance of one mile beyond. The map should show the locations of all wells, springs, and surface water bodies in the area and describe the physical and man-made characteristics of the boundaries. The scale of the map shall have one inch (2.54 cm.) equal to no more than 200 feet (61 meters) and have a contour interval not greater than 10 feet (3.05 meters).

17. Latitude (deg.-min.-sec.) 33° 28' 0"

Longitude (deg.-min.-sec.) 81° 13' 0"

18. ON THE SHEET PROVIDED List: Each type of hazardous waste the facility intends to handle (e.g. wastewater treatment sludge containing chromium); the hazardous characteristics for each waste (e.g. toxic); the action to be taken with the waste at the facility (e.g. disposal); the quantity of each waste estimated to be handled annually, in tons per year (e.g. 30 tons); and the technique to be used in handling each waste (e.g. earth burial). Additional copies of the provided sheet may be made and used if needed.

19. Certification

I hereby certify (or declare) that all data submitted in conjunction with this Application are true to the best of my knowledge.

Date completed Application was mailed or delivered to the Department 9/29/80
month day year

Operator's Signature [signature]

Owner's Signature Ron D. Pfeffer

Designing Engineer's Signature ____________ Registration No. ________

FOR DEPARTMENT USE ONLY

Date Application Received	Date Letter Sent to Verify Receipt	Public Notice Issued	Public Hearing	Renewal Date
/ /	/ /	/ /	/ /	/ /

RECEIVED

OCT 8 1980

S. C. DEPT. OF HEALTH AND ENVIRONMENTAL CONTROL SOLID WASTE

Tentative Decision

Final Decision

Hazardous Waste Materials Description	Hazardous* Characteristics	Action**	Annual Quantity Handled Amount Tons/Yr	Hazardous Waste Handling Technique
Acrylic Topcoat Filler Paste	Ignitable (IX E D001)	S	6.0	SCA Services
Prefinish Wash Solvent	Ignitable & Toxic	S	48.0	M & J Solvent Co.
Vinyl Wash Line Solvent	Ignitable & Toxic	S	20.7	M & J Solvent Co.
Oil & Grease	Ignitable	S	1.0	Harold Mason Oil Reclaimer
Glue Pit Sludge & Water Base Paint	-	S	157	County Landfill

*For each hazardous waste listed give the hazardous waste characteristic(s) which identifies the waste as hazardous. These characteristics are Ignitable, Corrosive, Reactive, Toxic, and Listed. Refer to R.61-79.1 of the Hazardous Waste Management Regulations for more detail.

**Use the code which best indicates the action intended to be taken with the waste.
S - Store T - Treat D - Dispose

Notification of Hazardous Waste Site

United States Environmental Protection Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

A Person Required to Notify:

Enter the name and address of the person or organization required to notify.

Name: Ozzie Fogle, Manager, Finishes Development
Street: Five Chop Road, P. O. Box 1087
City: Orangeburg, State: SC Zip Code: 29115

B Site Location:

Enter the common name (if known) and actual location of the site.

Name of Site: Champion International Corporation Building Products Division
Street: Five Chop Road, P. O. Box 1087
City: Orangeburg County: Orangeburg State: SC Zip Code: 29115

C Person to Contact:

Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title): Fogle, Ozzie, Manager, Finishes Development
Phone: (803) 534-2632

D Dates of Waste Handling:

Enter the years that you estimate waste treatment, storage, or disposal began and ended at the site.

From (Year): Unknown To (Year):

E Waste Type: Choose the option you prefer to complete

Option 1: Select general waste types and source categories. If you do not know the general waste types or sources, you are encouraged to describe the site in Item I—Description of Site.

General Type of Waste:
Place an X in the appropriate boxes. The categories listed overlap. Check each applicable category.

1. ☒ Organics
2. ☐ Inorganics
3. ☒ Solvents
4. ☐ Pesticides
5. ☐ Heavy metals
6. ☐ Acids
7. ☐ Bases
8. ☐ PCBs
9. ☐ Mixed Municipal Waste
10. ☐ Unknown
11. ☐ Other (Specify)

Source of Waste:
Place an X in the appropriate boxes.

1. ☐ Mining
2. ☐ Construction
3. ☐ Textiles
4. ☐ Fertilizer
5. ☐ Paper/Printing
6. ☐ Leather Tanning
7. ☐ Iron/Steel Foundry
8. ☐ Chemical, General
9. ☐ Plating/Polishing
10. ☐ Military/Ammunition
11. ☐ Electrical Conductors
12. ☐ Transformers
13. ☐ Utility Companies
14. ☐ Sanitary/Refuse
15. ☐ Photofinish
16. ☐ Lab/Hospital
17. ☐ Unknown
18. ☒ Other (Specify)

Prefinished wash solvents from manufacturing of paneling.

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261).

Specific Type of Waste:
EPA has assigned a four-digit number to each hazardous waste listed in the regulations under Section 3001 of RCRA. Enter the appropriate four-digit number in the boxes provided. A copy of the list of hazardous wastes and codes can be obtained by contacting the EPA Region serving the State in which the site is located.

Form Approved
OMB No. 2000-0138

Notification of Hazardous Waste Site — Side Two

Waste Quantity:

Place an X in the appropriate boxes to indicate the facility types found at the site.

In the "total facility waste amount" space give the estimated combined quantity (volume) of hazardous wastes at the site using cubic feet or gallons.

In the "total facility area" space, give the estimated area size which the facilities occupy using square feet or acres.

Facility Type

1. ☐ Piles
2. ☐ Land Treatment
3. ☒ Landfill
4. ☐ Tanks
5. ☐ Impoundment
6. ☐ Underground Injection
7. ☐ Drums, Above Ground
8. ☐ Drums, Below Ground
9. ☐ Other (Specify) ____

Total Facility Waste Amount

cubic feet 300 (estimated)

gallons ____

Total Facility Area

square feet 300 (estimated)

acres ____

Known, Suspected or Likely Releases to the Environment:

Place an X in the appropriate boxes to indicate any known, suspected, or likely releases of wastes to the environment.

☐ Known ☐ Suspected ☐ Likely ☒ None

Note: Items H and I are optional. Completing these items will assist EPA and State and local governments in locating and assessing hazardous waste sites. Although completing the items is not required, you are encouraged to do so.

Sketch Map of Site Location: (Optional)

Sketch a map showing streets, highways, routes or other prominent landmarks near the site. Place an X on the map to indicate the site location. Draw an arrow showing the direction north. You may substitute a publishing map showing the site location.

Description of Site: (Optional)

Describe the history and present conditions of the site. Give directions to the site and describe any nearby wells, springs, lakes, or housing. Include such information as how waste was disposed and where the waste came from. Provide any other information or comments which may help describe the site conditions.

Signature and Title:

The person or authorized representative (such as plant managers, superintendents, trustees or attorneys) of persons required to notify must sign the form and provide a mailing address (if different than address in item A). For other persons providing notification, the signature is optional. Check the boxes which best describe the

Name Richard C. Wigger, Vice President

Street One Champion Plaza

City Stamford State CT Zip Code 06921

☒ Owner, Present
☐ Owner, Past
☐ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other

EPA

POTENTIAL HAZARDOUS WASTE SITE
TENTATIVE DISPOSITION

REGION	SITE NUMBER

File this form in the regional Hazardous Waste Log File and submit a copy to: U.S. Environmental Protection Agency; Site Tracking System; Hazardous Waste Enforcement Task Force *(EN-335)*; 401 M St., SW; Washington, DC 20460.

I. SITE IDENTIFICATION

A. SITE NAME	B. STREET	
Champion Intern'l Corp. Building Products Division	Five Chop Road, PO Box 1087	
C. CITY	**D. STATE**	**E. ZIP CODE**
Orangeburg	S.C.	29115

II. TENTATIVE DISPOSITION

Indicate the recommended action*(s)* and agency*(ies)* that should be involved by marking 'X' in the appropriate boxes.

RECOMMENDATION	MARK 'X'	ACTION AGENCY: EPA	STATE	LOCAL	PRIVATE
A. NO ACTION NEEDED -- NO HAZARD	X				
B. INVESTIGATIVE ACTION(S) NEEDED *(If yes, complete Section III.)*					
C. REMEDIAL ACTION NEEDED *(If yes, complete Section IV.)*					
D. ENFORCEMENT ACTION NEEDED *(if yes, specify in Part E whether the case will be primarily managed by the EPA or the State and what type of enforcement action is anticipated.)*					

E. RATIONALE FOR DISPOSITION

F. INDICATE THE ESTIMATED DATE OF FINAL DISPOSITION *(mo., day, & yr.)*

G. IF A CASE DEVELOPMENT PLAN IS NECESSARY, INDICATE THE ESTIMATED DATE ON WHICH THE PLAN WILL BE DEVELOPED *(mo., day, & yr.)*

H. PREPARER INFORMATION

1. NAME	2. TELEPHONE NUMBER	3. DATE *(mo., day, & yr.)*
Debbie Browning	803-758-5681	10-28-83

III. INVESTIGATIVE ACTIVITY NEEDED

A. IDENTIFY ADDITIONAL INFORMATION NEEDED TO ACHIEVE A FINAL DISPOSITION.

B. PROPOSED INVESTIGATIVE ACTIVITY *(Detailed Information)*

1. METHOD FOR OBTAINING NEEDED ADDITIONAL INFO.	2. SCHEDULED DATE OF ACTION *(mo, day, & yr)*	3. TO BE PERFORMED BY *(EPA, Contractor, State, etc.)*	4. ESTIMATED MANHOURS	5. REMARKS
a. TYPE OF SITE INSPECTION				
(1)				
(2)				
(3)				
b. TYPE OF MONITORING				
(1)				
(2)				
c. TYPE OF SAMPLING				
(1)				
(2)				

EPA Form T2070-4 (10-79)

Continue On Reverse

Continued From Front

III. INVESTIGATIVE ACTIVITY NEEDED and PART B - PROPOSED INVESTIGATIVE ACTIVITY (Continued)

d. TYPE OF LAB ANALYSIS (1)				
(2)				
e. OTHER (specify) (1)				
(2)				

C. ELABORATE ON ANY OF THE INFORMATION PROVIDED IN PART B (on front & above) AS NEEDED TO IDENTIFY ADDITIONAL INVESTIGATIVE WORK.

D. ESTIMATED MANHOURS BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES	1. ACTION AGENCY	2. TOTAL ESTIMATED MANHOURS FOR INVESTIGATIVE ACTIVITIES
a. EPA		b. STATE	
c. EPA CONTRACTOR		d. OTHER (specify)	

IV. REMEDIAL ACTIONS

A. SHORT TERM/EMERGENCY STRATEGY (On Site & Off-Site): List all emergency actions needed to bring site under immediate control, e.g., restrict access, provide alternate water supply, etc. See instructions for a list of Key Words for each of the actions to be used in the space below.

1. ACTION	2. EST. START DATE (mo,day,&yr)	3. EST. END DATE (mo,day,&yr)	4. ACTION AGENCY (EPA, State, Private Party)	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

B. LONG TERM STRATEGY (On Site & Off-Site): List all long term solutions, e.g., excavation, removal, ground water monitoring wells, etc. See instructions for a list of Key Words for each of the actions to be used in the spaces below.

1. ACTION	2. EST. START DATE (mo,day,&yr)	3. EST. END DATE (mo,day,&yr)	4. ACTION AGENCY (EPA, State Private Party)	5. ESTIMATED COST	6. SPECIFY 311 OR OTHER ACTION; INDICATE THE MAGNITUDE OF THE WORK REQUIRED
				$	
				$	
				$	
				$	
				$	
				$	

C. ESTIMATED MANHOURS AND COST BY ACTION AGENCY

1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES	1. ACTION AGENCY	2. TOTAL EST. MANHOURS FOR REMEDIAL ACTIVITIES	3. TOTAL EST. COST FOR REMEDIAL ACTIVITIES
a. EPA			b. STATE		
c. PRIVATE PARTIES			d. OTHER (specify)		

MEMO-letter

S.C. DEPT. OF HEALTH & ENVIRONMENTAL CONTROL
EQC - Bureau of District Services
2600 Bull Street
Columbia, S.C. 29201

RECEIVED
MAY 15 1987
S. C. DEPT. OF HEALTH AND ENVIRONMENTAL CONTROL
Bureau of Solid & Hazardous Waste Management

To JOHN CAIN
SOLID & HAZ. WASTE

Date 14 MAY 87

Subject US PLYWOOD, FORMERLY CHAMPION INTERNATIONAL, FORMERLY US PLYWOOD.
ORANGEBURG, S.C.

ATTACHED IS A COPY OF A MEMO YOU MIGHT NEED. WHAT IS THIS SITE'S STATUS? THEY ARE ON MY LIST. I LOOKED AT THE OLD DRUM SITE YEARS AGO AND WROTE IT UP IN AN INSPECTION REPORT. I THINK THIS WAS BEFORE THE DISTRICT INITIATED P.A. FORMS. ANY INFORMATION YOU HAVE WOULD BE APPRECIATED.

JM Burckhalter
AIKEN EQC

FOLD AT (–) TO FIT DRAWING BOARD ENVELOPE #EW10P

EPA R

Notification of Hazardous Waste Site

United States
Environmental Protection
Agency
Washington DC 20460

This initial notification information is required by Section 103(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and must be mailed by June 9, 1981.

Please type or print in ink. If you need additional space, use separate sheets of paper. Indicate the letter of the item which applies.

810609

SCS 000001034

A Person Required to Notify:
Enter the name and address of the person or organization required to notify.

Name ~~Ozzie Fogle~~, Manager, Finishes Development
Street ~~Five Chop~~ Road, P. O. Box 1087
City Orangeburg, State SC Zip Code 29115

B Site Location:
Enter the common name (if known) and actual location of the site.

SC D003342177

Name of Site Champion International Corporation Building Products Division
Street Five Chop Road, ~~P. O. Box 1087~~
City Orangeburg County Orangeburg State SC Zip Code 29115

C Person to Contact:
Enter the name, title (if applicable), and business telephone number of the person to contact regarding information submitted on this form.

Name (Last, First and Title) Fogle, Ozzie, Manager, Finishes Development
Phone (803) 534-2632

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From (Year) Unknown To (Year)

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18. ☒ Other (Specify) Prefinished wash solvents from manufacturing of paneling.

Option 2: This option is available to persons familiar with the Resource Conservation and Recovery Act (RCRA) Section 3001 regulations (40 CFR Part 261).

Specific Type of Waste:
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RECEIVED
EPA/REGION IV

Form Approved
OMB No. 2000-0138

EPA Form 8900-1

ıfication of Hazardous Waste Site — Side Two

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J Signature and Title:

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Name Richard C. Wigger, Vice President

Street One Champion Plaza

City Stamford State CT Zip Code 06921

Signature Richard C Wigger Date 6/9/81

☒ Owner, Present
☐ Owner, Past
☐ Transporter
☐ Operator, Present
☐ Operator, Past
☐ Other